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AGRICULTURE

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CHINA REPORT
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I. GENERAL INFORMATION

INCREASED IMPORT, USE OF CHEMICAL FERTILIZERS PROPOSED

Beijing NONGYE JISHU JINGJI (ECONOMICS FOR AGRICULTURAL PRODUCTION TECHNOLOGY)
No 5, May 83 pp 11-14

[Article by Zhang Tong (1728 2717), "An Analysis of the Relationship between the Amount of Fertilizer Applied and Grain Production"]

[Excerpts] 1. The Potential for Increased Fertilizer Application.

Chinese agriculture is just at the point of transforming from traditional to modern agriculture is the use of science and technology, and the relatively greater input of material energy to give full play to its potential for increased production. Agricultural production is a biological reproductive process that transforms energy, and both domestic and foreign actual experience have shown that the more material energy utilized, the greater the production, and that the less material energy utilized, in less the production. Chemical fertilizer is a relatively important element among energy inputs. According to analysis by the United Nations' Food and Agriculture Organization (FAO), more than one third and close to one half of the rise in per unit area yield for world crops is due to increased application of chemical fertilizer. From a macroscopic analysis, whether viewed from the relation between fertilizer applied and grain yield for China since 1952 (Table One), or from the relation between chemical fertilizer applied and grain yield for different places within China (Table Two), or whether from the relation between fertilizer applied and grain yield for various countries of the world (Table Three), all prove that when there is greater input of fertilizer, the yield is correspondingly higher. There is a direct relation between the amount of fertilizer used and agricultural crop yield.

Table 1 The Relation Between Chemical Fertilizer Used and Grain Yield for China, 1951-1982

Year	Chemical Fertilizer Used per mu (jin)		Grain Yield per Cultivated mu (jin)
	By Real Amount	By Active Ingredients	
1952	0.4	0.1	225
1957	2.1	0.4	278
1965	11.3	2.5	288
1970	20.9	4.6	375
1975	35.5	7.2	460
1980	78.7	17.0	551
1981	83.2	18.0	569

Table 2 The Relation Between Chemical Fertilizer Used and Grain Yield in Different Areas of China (1980)

Area	Chemical Fertilizer Used per Cultivated mu (jin)		Grain Yield per Cultivated mu (jin)
	By Real Amount	By Active Ingredients	
China	78.7	17.0	551
Inner Mongolia	7.2	0.8	136
Xinjiang	14.2	5.1	261
Heilongjiang	16.3	5.3	267
Shaansi	43.1	10.3	326
Hebei	68.8	15.0	411
Sichuan	98.0	22.1	814
Guangdong	145.6	34.5	985
Zhejiang	218.7	45.2	1,250

Table 3 World Relation Between Chemical Fertilizer Applied and per Unit Area Crop Yield

Index	Year	Nitrogen	Phosphate	Potassium	Total
		(N)	(P O)	(K O)	
Chemical fertilizer used per hectare (in kilograms)	1969-71	22.1	14.8	11.5	48.4
	1980	41.5	21.7	16.7	79.9
Chemical fertilizer used per hectare converted to energy (100 million joules)	1969-71	20.11	1.97	1.04	23.12
	1980	37.76	2.89	1.50	42.15
Per hectare crop production (in kilograms)	1969-71	-----	-----	-----	1,806
	1980	-----	-----	-----	2,149

The above data show the following calculations for active ingredients of chemical fertilizer per mu of cultivated land: less than one jin input, grain yield per mu is just over 100 jin; with 10 jin input, the per mu yield is over 300 jin; with 15 jin input, the per mu yield is over 400 jin; with 22 jin input the per mu yield is over 800 jin; with 34 jin input, the per mu yield is over 900 jin and with 45 jin input, the per mu yield is over 1200 jin.

Consequently, there is still great potential for adopting this measure of increased fertilizer application in order to raise China's yield of grain and other crops.

2. In Increasing Fertilizer Application, We Should Go the Way of Combining Organic and Inorganic.

China has a large population and little arable land. Agricultural production must go the way of intensive farming and raising per unit area yield. One of the important measures for raising per unit area yield is to increase the fertilizer application. Presently, some people overemphasize "organic agriculture," "ecological agriculture," and "biological energy resources," and neglect or denigrate the function of chemical fertilizer. This point is not appropriate to the actual circumstances in our nation. Presently, the energy input for China's agricultural fields is primarily organic. The national average organic input is 77 percent of the total energy input, 87 percent in the low yield areas, 73 percent in medium yield areas and 69 percent in high yield areas. China's inorganic energy base is low, and its proportion small. By increasing the input of inorganic energy--particularly by increasing the amount of chemical fertilizer input--the increased production results are readily apparent. We should continue and further develop our excellent tradition of organic agriculture, but not only can we not be satisfied with this low level, semi-closed style primitive agriculture, we must see that there are set limits for the continually increased use of organic fertilizer in China. Since the national per capita average area of cultivated land is only 1.5 mu, it does not even equal one-third the world average of 4.7 mu. In the United States and the USSR, the per capita average area of cultivated land is over 12 mu. In France and Yugoslavia, the average is close to 5 mu. We do not have conditions like the above countries which allow us to adopt methods such as fallow fields or rotating grass and fields to increase the soil's organic matter. Even if we were to take two mu's worth of straw and turn it all into the ground, the energy input would still be insufficient to meet production needs. Of course we cannot and we should not go the way of large scale consumption of mineral energy. Under conditions in which organic fertilizer cannot meet the need, we should use inorganic fertilizer to supplement and increase the input of inorganic energy, and must go the way of combining organic agriculture and inorganic agriculture.

3. Strive to Raise the Economic Results of Increased Fertilizer Application

Seen from our present circumstances, the amount of chemical fertilizer applied in China is still rather small. Each mu of cultivated land uses 18 jin of chemical fertilizer (with active ingredients as below), yet in certain countries with high yield per unit area, the average amount of chemical fertilizer applied (converted to mu) is many times greater than ours. For example, the Netherlands, 105 jin; Ireland, 82.4 jin; Belgium and West Germany, 60 jin; and Japan, Czechoslovakia and France average over 40 jin. Even if the amount of fertilizer applied in China were to increase over one-fold, we still would not exceed the limits of the law of diminishing returns for fertilizer usage. Of course, when the amount of chemical fertilizer input reaches the saturation level, you cannot further increase the input amount, otherwise you not only would not increase production, but could produce diminishing returns. Seen from the local area or individual field, when the amount of fertilizer used approaches or reaches the saturation level, the phenomenon of lower economic results occurs in which there is increased production but no increased harvest or increased production with decreased harvest. But seen from a national scope, China's soil everywhere lacks nitrogen, much of it lacks phosphate, and parts of it lack potassium.

Organic fertilizer is far from adequate to meet the need, and so we must use chemical fertilizer to supplement the soil's nutrients.

According to local experience, to increase the economic results of chemical fertilizer, we should strive to do a good job in four areas:

A. Adjust the proportion of nitrogen, phosphate and potassium. In the growth and development of agricultural crops, the three elements of nitrogen, phosphate and potassium work together. If the proportions are proper, then it can raise the beneficial results. The world's consumption ratio for nitrogen, phosphate and potassium is: 1:0.52:0.40. In China it is: 1:0.31:0.04. According to a preliminary analysis, the suitable ratio for China's nitrogen, phosphate and potassium is: 1:0.5:0.2. Presently there are approximately one billion mu of land in China that lack phosphate, and 300 million mu of land that lack potassium. If we can increase the amount of phosphate fertilizer and potassium fertilizer used, then we can greatly increase the economic results of chemical fertilizer.

B. Improve fertilizer application methods. China's fertilizer application method for the most part is by scatter application, and the utilization rate for nitrogen is only about 30 percent. According to test materials, the effectiveness for scattered application of ammonia carbide is only 28.6 percent, but with deep application of base fertilizer, the effectiveness can reach 51.6 percent. And the effectiveness for the deep application of granular fertilizer reaches 54.2 percent. The effectiveness for scatter application of urea fertilizer is 40 percent, but the effectiveness for deep application of granular fertilizer can reach 82.7 percent. It's obvious that improving fertilizer application methods can greatly increase the beneficial results of chemical fertilizer.

C. Apply fertilizer according to soil conditions and distribute it rationally. Currently, there is irrational distribution of chemical fertilizer among different areas in China. For example, in generally low yield areas, each jin of nitrogen fertilizer can increase grain yield by four or five jin, and increased yield results are good, but the amount of chemical fertilizer distributed there is very small. In high yield areas, each jin of nitrogen fertilizer can only increase grain yield about half a jin to one jin, but the amount of chemical fertilizer distributed there is great, even to the point where in a few areas the amount of nitrogen fertilizer used approaches the saturation level. We should apply fertilizer according to the soil conditions and according to the land and crops, and as much as possible should give priority for our limited quantity of chemical fertilizer to cultivated land below the line for diminishing returns, in order to obtain the greatest economic results. From here on out, we should take new increases in chemical fertilizer [production] and distribute them to low and medium yield areas that lack fertility, which would give good results in increased yields and which now possess good conditions for irrigation: in this way we can give full play to chemical fertilizer's greatest economic benefits.

D. Raise the quality of chemical fertilizer. Currently worldwide, fertilizer is developing in many areas, such as extra strong and condensed, compounded,

long-lasting, and liquified forms. Currently, China's fertilizer is lacking in quality and has a low level of active ingredients. This is a very great waste. We should not lop-sidedly pursue quantity, but should strive for quality. This, too, can greatly increase economic benefits.

4. The Path to Increasing the Amount of Chemical Fertilizer Used

Since liberation, the speed of China's chemical fertilizer production has been rather fast, but seen from the viewpoint of our needs, is still far from adequate. From here on out, in addition to continuing to strive to produce even more high quality domestic fertilizer, it is still absolutely necessary to adopt methods that reduce grain imports and increase chemical fertilizer imports, in accordance with actual current domestic conditions and international trade circumstances. According to statistics from the United Nations' Food and Agriculture Organization, in 1982 there was a world surplus of nitrogen fertilizer of 1.11 million tons, and a surplus for 1983 of 1.34 million tons. This surplus situation will probably be sustained until 1987. In 1982, there was a world surplus of phosphate fertilizer of 3.47 million tons. Due to excess chemical fertilizer production, the world price for chemical fertilizer dropped greatly. Moreover, the world price of wheat was already relatively moderate, and there was only a slight drop in price. Currently, if China imports one million tons less of wheat, then it can make adjustments in order to import 2.73 million tons more of ammonium sulphate. And just calculating from the factor of 1 year's drop in price, we can spend \$25 million less in foreign exchange over the previous year. This is equal to approximately 420 thousand tons more of ammonium sulphate. If we figure that one jin of ammonia sulphate increases wheat yield by only one jin, then we can increase wheat yield by only one jin, then we can increase wheat yield by 2.73 million tons. Presently, in the international market, the price of chemical fertilizer is lower than the price of wheat. Wheat is \$164 per ton (FOB-the same below), triple superphosphate is \$133 per ton, potassium chloride is U.S. \$155 per ton, and compound fertilizer is \$145 per ton. If we import one million tons less of wheat, we can import 1.13 million tons more of compound fertilizer. Figuring that each jin of compound fertilizer increases wheat yield by 2.5 jin, then we could increase wheat yield by 2.82 million tons. Since China's agriculture has carried out the contract responsibility system that ties pay to output, quite a few areas, after they have completed their purchase quotas, still have a considerable quantity of surplus grain. The nation can buy the surplus grain at the market price to take the place of imported grain, and use the foreign exchange thus saved to import chemical fertilizer. By selling the imported chemical fertilizer to the peasants, we can in this way form a healthy cycle with great economic results. And using this capital, we can set up even more chemical fertilizer plants, produce even more chemical fertilizer, and lead to even greater advancement for the development of China's grain production. (Author's work unit: Planning Bureau, Ministry of Agriculture, Animal Husbandry and Fisheries)

12452

CSO: 4007/175

MEETING HELD ON EMERGENCY PLANNING FOR FLOOD PREVENTION

Guangzhou NANFANG RIBAO in Chinese 20 Jun 83 p 1

[Article: "Provincial Government Convenes Emergency Meeting to Plan Flood Disaster Prevention. Overcome Paralyzed Thinking in Earnest and Resolutely Triumph Over Flood and Waterlogging Disasters"]

[Text] Yesterday afternoon the Guangdong Provincial People's Government convened an emergency meeting to plan flood disaster prevention work. The meeting emphasized that each unit must overcome paralyzed thinking in earnest, mobilize the broad masses of cadres and people, proceed from a worst case scenario, and resolutely triumph over flood and waterlogging disasters to achieve victory in the struggle against floods.

The meeting was chaired by Ling Botang [0407 0130 2758], commander-in-chief of the Provincial Tri-defense Command; Deputy Provincial Governor Yang Li 2799 4539 put forward requirements for current flood disaster prevention work. Provincial committees, offices, departments and bureaus concerned, as well as comrades in charge of Guangzhou military units, the provincial military region, and the Guangzhou Municipal Tri-defense Command attended the meeting.

During the past 3 days, everywhere in the northern, central, and eastern regions of the province heavy rains and torrential rains have fallen for days on end, and some places have had extremely torrential rains. A very large amount of rain has fallen over a wide area. The Xinfeng Jiang, Liuqi He, Fengshu Dam, Nanshui, Chang Hu and Tanling power station reservoirs have exceeded their flood prevention limits and have discharged flood waters. This has increased flood prevention pressures on each of the rivers. During the past several days, flood waters have risen dramatically on the Bei Jiang, Dong Jiang, and Han Jiang. On 19 June, Qingyuan Station on the Bei Jiang showed a 15.32 meter flood crest. This was 3.32 meters above warning level, and only 0.56 meters lower than the all-time highest flood level. On the Han Jiang, floodwaters crested at 15.35 meters on 19 June, 1.83

meters higher than the warning level. The water level at the Huiyang Station on the Dong Jiang is still rising and is predicted to crest at 15.4 meters, or 2.4 meters above warning level on the afternoon of 20 June. In addition, meteorological forecasts call for heavy to torrential rains between 20 and 22 June in the northern, eastern, and central regions of the province, posing serious threats to these areas.

Deputy Governor Yang Li pointed out that the anti-flood work situation is currently very critical. We must earnestly overcome paralyzed thinking and proceed from a worst case scenario to plan flood disaster prevention work. Thanks to recent readjustments in administrative zones, matters will not be permitted to fall between the cracks in flood prevention work. All committees and offices concerned, as well as units directly subordinate to the province, are to take the initiative in coordination, and cooperate completely so that manpower and materials will be available when needed and can be thrown into the fight against floods at any time.

The conference decided that the provincial government should immediately notify prefectures and municipalities concerned to effect emergency mobilization of the masses for flood disaster prevention work. The meeting also called upon the electric power sector to assure availability of electricity to drain waterlogging for early grain crop production.

9432
CSO:4007/189

NEW ATTENTION GIVEN TO WEATHER REPORTS IN FARMING

Guangzhou NANFANG RIBAO in Chinese 20 Jun 83 p 1

[Article: "Province's Meteorological Departments Work at Service to Agricultural Production. Numerous Places Have Restructured Irrational Farming Systems on the Basis of Meteorological Data"]

[Text] Guangdong Province's meteorological departments have changed their method of serving agriculture from mostly meteorological forecasts to the development of a new stage of rational use of meteorological data. This view was provided by the province's conference on application, promotion, and exchange of experiences on rural meteorological research results concluded at the end of May.

Rational development of agricultural production on the basis of local weather conditions is termed utilization of agricultural weather data. Following the Third Plenary Session of the 11th Party Central Committee, the provincial Meteorology Bureau organized prefectures and counties throughout the province to begin the survey and zoning of meteorological resources, and to explore ways in which to use meteorological resources fully and rationally for the development of agricultural production.

Use of meteorological resources for rational planning of local varieties of rice to be planted and sowing times is the main direction of efforts by agricultural departments everywhere. Beginning in 1978, Lianping County Meteorology Bureau proposed a safe sowing period for early rice and a safe period for full heading of late rice tailored to the county's high mountain region climate. As a result, the county's early rice crop avoided seedling rot year after year, and the late crop escaped damage from "cold dew winds." Continuing, they analyzed late weather conditions in the county as being better for the late crop than for the early crop; though output from the late crop has been consistently lower than from the early crop. So they recommended the growing of a warmth sensitive late crop variety with a fairly short growing seasons, which they grew experimentally on a 10 mu high rice yield experimental plot. As a result,

not only did yields average more than 1,000 jin per mu for 3 consecutive years, but they were higher than for the early crop. On many occasions, the County CPC Committee organized inspection visits for commune and brigade cadres, which gave very great impetus to paddy rice production throughout the county. As a result of the rather rational use made of meteorological resources, the county's rice yields rose from an average 806 jin per mu in 1978 to 1,089 jin in 1982.

On the basis of data about meteorological resources, numerous prefectures have restructured their existing irrational farming systems, or have developed new production bases. The Zhanjiang Prefecture Meteorology Bureau made a comprehensive survey of agricultural meteorological resources on the Leizhou Peninsula. It discovered that meteorological conditions on the Leizhou Peninsula meet requirements for production of hybrid rice seeds. Consequently, production of seeds on Hainan Island, which has been customary, was changed, and this year the Leizhou Peninsula produced almost 100,000 mu of hybrid seeds, providing fine conditions for development of hybrid rice production.

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GUANGDONG

GUANGDONG TO EXPLOIT SOLOMON ISLANDS FORESTRY RESOURCES

Guangzhou NANFANG RIBAO in Chinese 20 Jun 83 p 1

[Article: "Guangdong Province to Invest in Development of Solomon Islands Forestry Resources. Feasibility Study Shows This Development Extremely Favorable for Both Parties. Development of 300,000 Mu Forest Area at Present Stage to Provide Continuous Felling For 13 Years"]

[Text] According to a broadcast yesterday by the Central People's Broadcasting Station, page 1 of "JINGJI CANKAO ECONOMIC REFERENCE" reported that Guangdong is to invest in development of Solomon Islands forestry resources, and departments concerned are currently very busy formulating plans and signing contracts.

The Solomon Islands, which became self-governing on 2 January 1976 and which declared independence on 7 July 1978, are located in the southwestern Pacific Ocean. They have a population of somewhat more than 200,000, and are an agricultural country that produces and exports mostly copra. The islands have numerous volcanoes, and their northeastern coast has a broad plain. Perilous mountain peaks tower above each island, and since temperatures are high with much rainfall, the mountainlands have become dense jungles. The islands' soil is fertile, and water power, forest, fishing industry, and mineral resources are abundant. Principal agricultural crops are various kinds of tubers and coconut, bananas, palm oil, cocoa, and spices. They have fishing industry processing, furniture, plastics, clothing, and wooden ship plants. Minerals include bauxite, nickel, copper, gold, and phosphate. In recent years the Solomon Islands have expanded exports and encouraged foreign investment.

According to reports, the Solomon Islands are presently willing to allow China development of two forested areas in a western province totaling 300,000 mu in area. Preliminary plans call for the annual felling of from 100,000 to 110,000 cubic meters of timber, and China will fell continuously for 13 years.

A Guangdong Provincial Joint Study Team conducted a feasibility study and concluded that this development is extremely beneficial for both China and the Solomon Islands. This development plan was proposed by Mr. Guan Houyuan [7070 0624 3293], a patriotic overseas Chinese.

9432

CSO: 4007/189

DISCUSSION OF QUESTIONS ON QUADRUPLING OF AGRICULTURAL PRODUCTION

Beijing NONGCUN GONGZUO TONGXUN (RURAL WORK NEWSLETTER) in Chinese No 4,
5 Apr 83 p 7

[Article by Liu Xigeng (0491 6932 1649): "A Discussion of Problems in
Quadrupling Agricultural Production"]

[Text] At the Twelfth Party Congress, the magnificent goal was proposed of quadrupling the total value of agricultural output by the end of the century and it was determined that expanding agriculture is one of the key strategic points in realizing this goal. Can agricultural production be quadrupled and how can we bring it about? In order to study this question, I made surveys of six counties in the Xuzhou region of Jiangsu Province. Eighteen years ago, I served here for eight years as secretary on the prefectural CCP committee. When I returned again and saw with my own eyes the earth-shaking changes that had occurred in the rural areas, I was profoundly inspired.

Xuzhou was originally one of the regions well-known throughout the nation for its low production and poverty. In the early phase of the liberation, total grain production was only 1.7 million jin and most of the masses led lives of semistarvation. From the 1950s to 1960s, total grain production fluctuated around 2 billion jin. In 1973, it reached 4 billion jin, after which it fluctuated for 5 years, finally rising to over 5 billion jin in 1978. Since the Third Plenary Session of the Eleventh Central Committee, the Party line and its general and specific policies have been correct, there has been an unprecedented rise in the initiative of the masses in production and there has been abundant agricultural production from year to year. By 1982, the total value of agricultural output had risen from 2.2 billion yuan to 4.287 billion yuan, an increase of 89 percent in the total value of agricultural output. The principle indicators of agricultural production almost doubled: Grain increased from 4.47 million jin to 7.738 million jin, an increase of 73 percent and an average annual progressive increase of 11 percent. There was an increase of 3.8 times in oil materials and an increase of 98.2 percent in cotton. The amount of secondary agricultural products sold to the state increased 2 to 4 times. Sales to the state of grain increased from over 700 million jin to 1.8 billion jin, an increase of 1.3 times; sales of cotton increased 89 percent; sales of oil products increased more than 4 times; and sales of live pigs increased 1.2 times. The average amount distributed to commune members increased from 55 yuan to 160 yuan, an increase of 3 times. They have now formulated a new plan for doubling on the basis of local

conditions. In addition to increasing investment and raising unit production of the land now under cultivation, they are going to devote the principal energies to expanding agriculture. They plan to develop 2.4 million mu of wasteland, 1.4 million of water surface and more than 200,000 mu of shallow sea beach areas. In terms of methods of work, they do not plan to make everyone advance at one rate. Those projects for which there are conditions can be tackled first and those counties and communes which advance quickly will be allowed to charge ahead.

The changes in the Xuzhou region can be said to be the epitome of what has happened in the rural villages of the nation as a whole. On the basis of incomplete statistics for Shandong, Guangdong, Anhui, Henan, Zhejiang, Jiangsu, Fujian and Beijing, the total value of agricultural output has doubled in 116 counties within the past 3 to 4 years. Many regions and commune brigades in which production had originally fallen behind, doubled their output value in 1 or 2 years. There have also been many regions in which the economic foundation was completely good in which output value has doubled in 3 or 4 years. This trend toward development in the rural areas of our nation has been very inspiring to people. This has led us to say with confidence that the goal of quadrupling agricultural production can definitely be met under the guidance of the line of the 12th Party Congress and through the efforts of our 800 million peasants.

Quadrupling agricultural production refers to quadrupling the total output value of agriculture, forestry, animal husbandry, fisheries and industrial side occupations in commune brigades. It refers to the nation as a whole. This does not mean applying a single proportion to all products and to all regions throughout the nation. Rather, different things will be required to be quadrupled on the basis of the possibility of increase in different regions, under different conditions, in different industries and for different agricultural products and on the basis of domestic and foreign market demands. For the country as a whole, the following preliminary forecasts have been made to the end of the century taking 1980 as the base for the following major agricultural indicators on the basis of opinions provided and discussed by various business sectors: The total value of agricultural output (including the output value for industrial side occupations at the production brigade level and below) will increase 1.8 times, there will be an increase for grain of 0.5 times, an increase for cotton of 0.6 times, an increase for oil materials of 4 times, an increase for meats of 1 time, an increase for milk of 21 times, an increase for aquatic products of 1.4 times, an increase in commune and brigade enterprises income of 3.4 times and increase in the average income of commune members of 2.3 times.

In order to reach the aforementioned goals, the average annual rate of growth in the total value of agricultural output over the next 20 years will have to be 5.3 percent. In the light of the rates of economic growth in our nation and in other nations in the world, there is a basis for proposing this objective of struggle and it is an objective that can be realized.

First, the rate of growth of agriculture in our nation under normal conditions is comparatively rapid. From 1949 to 1952, the average annual rate of growth

reached 16.3 percent. From 1953 to 1957, the average growth each year was 4.5 percent. From 1958 to 1968, we went through the two great setbacks of the "great leap forward" and the "great cultural revolution," during which period there were decreases in the rates of growth of both the output value of agriculture and the output value of industry. After order had been brought out of chaos following the Third Plenary Session, the economy began to flourish and there has been a sustained and comprehensive growth of agriculture in our nation for the past few years. From 1979 to 1981, the average annual increase in the total value of agricultural output reached 5.6 percent. In 1982, the total value of agricultural output increased by 7 percent as compared to the previous year, with the total value for grain output increasing 5.9 percent. This indicates that the average annual growth rate of 5.3 percent under normal conditions has been reached and exceeded in the past. The implementation in rural areas of an agricultural production responsibility system of contracting linked to production as principal mode and the satisfactory combination of the advantages of the collective economy and individual initiative has resulted in the course of development of socialist agriculture becoming even more adapted to actual conditions in our country. With the gradual perfection of the contracting linked to production responsibility system and with the development of a diversified economy, a large number of specialized households and key households have appeared. This has caused marked increases in productivity and marketability. As a result, the prolonged state of stagnation in our nation has been broken down. This has stimulated the self-supporting to semi-self-supporting economy of agriculture to shift more and more to large scale commercialized production, to shift from traditional agriculture toward modernized agriculture and to shift from fixing of farm output quotas for each household and assigning of tasks to each household to various new modes of alliance. This indicates that a vigorous development of our nation's agricultural economy will occur even more quickly.

Second, in view of the circumstances of the quadrupling of agricultural production in various foreign countries, conditions also exist in this country for the quadrupling of agricultural production. The 18-year period from 1960 to 1977 was one of comparative economic stability and of relatively rapid scientific and technical growth in the postwar world. The states of increase in the total value of agricultural production during this period in the major nations were as follows: United States, 1.78 times; Soviet Union, 1.36 times; Japan, 3 times; France, 2.45 times; England, 1.75 times; Hungary, 1.34 times; India, 2.9 times; Yugoslavia, 14.68 times; and Brazil, 6 times. The causes of the rapid development of agriculture in the aforementioned countries were as follows. First, the countries stressed development of agriculture, as, for example, Yugoslavia, which had the best results and in which expansion was most rapid. Second, economically undeveloped countries like Brazil and India which had a very low base were conscientious in dealing with agriculture, with rapid development occurring. Third, in countries like Japan, the high degree of industrial development also stimulated development of agriculture.

Our nation already has a modernized industrial system and has correct policies for the expansion of agricultural production. Science and technology are being applied by the vast numbers of peasants and the conditions for rapid expansion of agriculture are present. It can be said that there is still some leeway in

the target of an increase of 1.8 times in the total output of agricultural production (including the output value of industrial sideline occupations at the brigade level and below) through 18 years of struggle until the end of the century. Through effort, it can be reached.

Third, accelerating the rate of agricultural development so that many more counties will double production as soon as possible can serve as an example for quadrupling for the nation as a whole. Quadrupling of agricultural production will provide more raw materials for industry, will expand markets for sale of industrial goods and will also accelerate growth in building capital and state financial income. This will inevitably be a great motive force in stimulating industrial growth. With 1980 as the base, the first step will be to strive to double the output value of agriculture in one-third to one-half the counties of the nation as a whole by 1987. This has given great impetus to our work. After conscientious summary, in the second step, even more counties can be stimulated to double agricultural production and those that have already done so will go on even further. This will provide a major assurance that we will be able to realize our entire strategic goal of achieving total grain production of 960 billion jin, of sustaining the ratio of the total output value of agricultural production over 20 percent of the total output value of industrial and agricultural production and of further improving the people's livelihood by the year 2000.

How can we take a course of quadrupling agricultural production? On the basis of the directive of the CCP Central Committee and of experiences in Xuzhou and other areas, it is important to take the following four measures.

First, we must conscientiously implement the general policies, line and specific policies of the 12th Party Congress and implement the spirit of the documents of the CCP Central Committee on economic policy for the rural areas. This will provide the basic guarantee of quadrupling agricultural production. At the same time that we continue to implement and perfect the linking production to contracting system, the concerned sectors of the state should, in conformance with the spirit of the CCP Central Committee, as quickly as possible formulate and revise the relevant laws and regulations and rules in order to stimulate quadrupling of agricultural production. These include, for example, provisions allowing people to make independent arrangements after the state purchase assignment for secondary agricultural products has been completed, provisions regarding the question of local processing of secondary agricultural products, provisions regarding the purchase of tractors and motorized vehicles and boats by individual peasants and rural area cooperative economies for the purpose of engaging in production and transport, and strengthening management of individual industrial and commercial households. Using legal means to protect the legitimate rights and interests of the peasants, to urge the peasants on to prosperity, to eliminate the irrational past restrictions on the peasants and to remove the bonds on the productivity of the peasants will pave the way for quadrupling agricultural production.

Second, we must fully utilize local resources and conditions and take a course of comprehensive development of forestry, animal husbandry, subsidiary production and fisheries and of comprehensive management of agriculture,

industry and commerce. Quadrupling agricultural production cannot be done relying solely on planting and growing and cannot involve only grain production. Agricultural production cannot be quadrupled by relying on a single type of grain. Rather, the economic structure of agriculture must be reformed. In addition to putting a strong emphasis on grain production, we must also develop a diversified economy, putting great effort into developing agriculture, forestry and orchards, secondary agricultural product processing industries, rural construction industries and transport and sales enterprises so that secondary agricultural products can be processed repeatedly and value can be added to them repeatedly, thereby increasing the profits of the peasants. Reforming economic structure requires sound measures. For example, funding for high-yield improved varieties of high quality (including both plants and animals), compound fertilizers, full equipping of field projects, energy sources, materials and production will have to be put into effect. Once these problems are solved, quadrupling of agricultural production can be realized.

Third, we must continue to carry out the technical transformation of agriculture, to raise the scientific and technological level in the rural villages and to gradually build a sound scientific and technical training and popularization system for agriculture as a whole. Expansion of agricultural production depends first on policy and second on science. The expansion of agriculture over the past several years has been dependent primarily on the correct policy of the Party. A leading comrade of the CCP Central Committee has pointed out: "Relying on policy to mobilize initiative is very important. However, there is a limit to it, with saturation occurring once a certain point has been reached. However, the development and utilization of sciences and technology is inexhaustible." The Science and Technology Commission has formulated the plans for development of science and the key projects for the period of the "Sixth Five-Year Plan" with the intention of continuously providing new accomplishments for agricultural production. We have disseminated and utilized existing scientific and technological accomplishments to a very insufficient extent. For example, there is 5 million mu of transplanted paddy rice in Sichuan Province. For reasons that are not clear, prevention and control methods were not adequate, with 500 million to 1 billion jin being lost from the paddies each year. As the result of a 4-year study by the Provincial Academy of Agriculture, the cause of the loss of the transplanted paddy rice was found to be a lack of zinc. Merely by popularizing measures to deal with this, it was possible to increase production per mu by 73 to 111 jin. The cost for this was only 8 jiao. There are innumerable examples of this kind. At present, the agricultural science and technology forces of our nation are very weak. There are only 0.75 technical advisers per each ten thousand peasants throughout the nation, a number that is far from meeting the demands for rapid expansion of agricultural production. However, there are very extensive resources of trained personnel. The major factor is that we have not developed them. There are several tens of millions of senior middle school graduates remaining in the rural areas. If we could train these rural intellectual elements in agricultural schools, peasant's vocational and technical schools and central agricultural radio schools so that they could master scientific and technical knowledge about agriculture, they could become the key members of various specialized households and key households. Through

examinations, agricultural sectors at all levels could select and appoint them as agricultural technicians and they could form a vast corps for disseminating science and technology.

We must also make an effort to promote and popularize the technical contract responsibility system. Peasants understand very well that they can build up their family fortunes by relying on science and technology. They regard scientific and technical personnel as "gods of wealth." They will go great distances to invite them [to come help], and if inviting fails, they use forceful means. They welcome making technical contract agreements with agricultural technicians. We should encourage and support scientific and technical personnel in actively engaging in technical contracting, in integrating responsibilities, rights and benefits, in putting a responsibility rewards and punishment system into practice, in supporting the principles of greater effort and of reversion of income to the individual and in fully mobilizing the initiative of the vast body of scientific and technical personnel.

Fourth, all levels should lead ideology into keeping pace with the demands of quadrupling. After having conscientiously studied the documents of the 12th Party Congress, the vast body of cadres and masses have already turned their efforts toward carrying out quadrupling. In the rural villages, everyone is talking about laboring to acquire prosperity and leaders at all levels are discussing quadrupling of agricultural production. The masses say: There are a thousand ways to agricultural production; if we can master a few of them, we'll be able to get rich. If a project is concrete, then we can have full confidence in it. There are many cadres in the leadership ranks with foresight and wisdom. However, there are some cadres who, in the course of discussing quadrupling of agricultural production, take a closed door attitude in seeking restrictions, setting targets and applying formulas for quadrupling of agricultural production. They also divide it up into the first 10 years and the last 10 years, usually setting a pace that is slow at first and faster later. They make it sound very good but in actuality do not have enough confidence. The masses criticize them, saying: "Their nerve in issuing confusing orders is greater than ours. We want them to lead us in quadrupling but their nerve is not as great as ours." It is just as a central leadership comrade pointed out in materials on quadrupling in one county. "The present situation is like this: In a small number of regions there is confidence and there are ways of getting things done. In the majority of regions, people have not got a grasp of the matter and there is not enough confidence." Cadres at all levels on our agricultural front should free themselves from old ideas, courageously lead the reform in the economic structure of agriculture, reform of systems and technological reforms. They should lead the peasants in working toward prosperity, form the corps for stimulating quadrupling of agricultural production and take the lead in advancing. However, it is not enough to have good wishes. The important thing is to have abundant knowledge of agriculture and to understand how to guide technology. Agricultural production involves dealing with nature and living things and is a comprehensive scientific discipline comprising chemistry, soil science, plant physiology, plant protection, meteorology and crop cultivation as well as agricultural machinery and administration and management. This means that it is necessary for leaders

at all levels on the agricultural front to master these branches of specialized knowledge if they are to become qualified to lead the quadrupling of agricultural production and organize work. At the same time, they will have to boldly promote and appoint young people who understand technology, who have specialized knowledge and who have both ability and political integrity to the leadership ranks to lead this work.

At present, conditions in the rural areas are very good, the direction of agricultural development is clear and models for realizing quadrupling of agricultural production have already emerged in large numbers. Leaders at all levels on the agricultural front must do the following: they must free themselves a little more from old ways of thinking, they must be a little bolder about reform, they must be a little more down-to-earth about their work and they must do work well with enthusiasm and a sense of initiative in order to make even greater contributions to realizing the quadrupling of agricultural production.

10019

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HIGH YIELD WHEAT, BARLEY FARMING IMPROVEMENTS URGED

Nanjing XINHUA RIBAO in Chinese 4 Jun 83 p 1

[Article by Commentator: "Make 100 Mu Continuous Tract High Yield Cultivation Experiments Perform Better"]

[Text] Jiangsu Province's exploration of new ways of farming wheat and barley to produce high yields, consistent yields, and fine quality with low expenditures and at lowered costs, or increased benefits through high yield farming experiments on 100 mu continuous tracts has been going on for 4 years. As a result of 4 years of practice, this developmental research has not only gained outstanding economic benefits, with wheat and barley farming techniques reaching advanced international levels, but has also developed peasant intellect. As a result of the 100 mu experiments, a group of technical mainstay cadres are reaching maturity, and this is of even more positive significance.

Contemporary science and technology exhibits a trend toward convergence, and agricultural science and technology is no exception, of course. In Jiangsu Province, the 100 mu continuous tract high yield farming experiments have employed a combined program of scientific research, teaching, and production. It has adhered to cooperation among sectors concerned in the tackling of key problems, and the combined application of all fields of advanced agricultural science and technology in an effort to improve the effective rate of transformation of material energy to gain the best economic benefits in conformity with this trend toward convergence. The 12th Party Congress made agriculture and science strategic focuses, requiring that we take very, very firm grip on grain production. Jiangsu Province's 100 mu continuous tract high yield farming experiments are an economically effective way in which to apply the results of agricultural science and technology in an integrated way to guide and give impetus to production over wide areas, to accelerate the translation of the results of scientific research directly into productivity, to make large area grain crop high yields even higher, make intermediate and low yields become high yields, and to increase the rate of production of marketable grain. Consequently, the 100 mu

continuous tract high yield farming experiments are an effective innovation for accelerating the development of agriculture that are a step in the right direction, that have broad prospects, and that should develop steadily toward higher levels, more accurately in depth, and in the direction of fuller scientific completeness.

After rural villages everywhere instituted production responsibility systems, for a time some comrades feared lest collective labor become decentralized labor spread among individual household units, and they feared that 100 mu high yield farming experiments might be difficult to maintain. Today, practice has demonstrated these fears to have been groundless and unnecessary. The 100 mu high yield farming experiments have played a more active role as compared with the past. Leaders and agricultural scientific and technical personnel at the three major 100 mu experimental sites north of the Huai, in central Jiangsu, and in southern Jiangsu have followed a spirit that closely combines experimentation, demonstration, promotion, and training linked to seasonality in rural areas. They have used high yield tracts as training bases through direct observation, and have used classroom lectures, on-site observation, and hands-on methods for the training of grassroots personnel, demonstration households, and contract households, the broad masses of commune members thereby seeing at first hand that the technical measures used in high yield fields are advanced, that measures for increasing yields are workable, that farming costs are economically sensible, and that beneficial results are gained in increased output and increased earnings. As a result, the masses have been won over and have learned; techniques have been spread over wide areas; and high yield fields have played a role as demonstration fields, and guidance fields. Some people have described the 100 mu high yield experiments as command posts for directing agricultural production built on the new conditions of production responsibility systems. They are classrooms for training in scientific techniques, and they are hubs that bind together the farflung demonstration households and contract households. Consequently, the raising to a new level of the 100 mu continuous tract high yield farming experiments is also an urgent demand of the broad masses of commune members.

The 100 mu high yield experiments are composite experiments that have a bearing on the planning, farming, water conservancy, and grain sectors. They are, at the same time, a highly technical job in which it is difficult to avoid some problems in the course of their performance. This requires that comrades engaged in agricultural production at all levels take effective action to arouse to the full the enthusiasm of agricultural scientific and technical personnel so that the high yield experiments will rest

on scientific and technical progress, and on the role of scientific and technical personnel for economic benefits in high yields, lowered costs, and increased earnings. Departments concerned are to be organized to work together in common so that the planning of high yield experiments will be truly workable, and so that logistical supply will be assured. In addition, regular inspections must be organized, technical exchanges conducted, and on-site examinations and acceptances performed. Such methods can assure the smooth conduct of high yield experiments, and the spread of technical experience gained at "100 mu sites" to large area production on 1,000 mu or 10,000 mu for further initiation of a new situation in agricultural production.

9432

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SPECTACULAR RESULTS CLAIMED FOR HIGH YIELD WHEAT, BARLEY RESEARCH

Nanjing XINHUA RIBAO in Chinese 4 Jun 83 p 1

[Article: "Results Outstanding From Province's Developmental Research on High Yield Wheat and Barley Farming Techniques Wheat and Barley Experts Inside and Outside the Province Agree Following Observations"]

[Text] Recently the Jiangsu Science Committee invited wheat and barley experts from inside and outside the province to make an on-site inspection of the province's developmental research on high yield wheat and barley farming techniques. The experts agreed that economic results from this developmental research have reached advanced international standards.

Jiangsu Province annually plants 40 million mu to wheat and barley. This is about 60 percent of the area planted to grain in the province. With the autumn sowing in 1979, the Provincial Science Committee and Provincial Agricultural Committee organized agricultural institutions of higher learning, scientific research units, production departments, and grassroots communes and production brigades throughout the province for a cooperative experiment in high yield farming of wheat and barley on 100 mu continuous tracts. With a goal of increased output and increased earnings from a large area, they concentrated mostly on high yields, consistent yields, fine quality, low costs, and increased earnings. They most effectively combined for use results of existing scientific techniques and applied techniques to different agricultural areas at sites having different agricultural production conditions throughout the province, guiding and giving impetus to large area production. The province, municipalities, counties, communes, and production brigades set up their own experimental leadership teams and technical guidance teams to achieve an interrelationship of scientific research, education, and production, and an interrelationship of fine varieties and fine methods. Over the past 4 years, this developmental research has laid a foundation for setting up a model, standardized, and regional system for farming techniques. It has produced high yields, beneficial results, experiences, and trained personnel,

and it has also developed farming science. As a result of hard work, high yield experiments on 100 mu continuous tracts north of the Huai, in east Jiangsu, and in south Jiangsu produced outstanding economic results, and constituted a regional model of farming technology for wheat and barley for the whole province. Using ecological conditions in Yangzhou Prefecture as a basis, Professor Ling Qihong [0407 0796 7703], director of the Jiangsu Academy of Agriculture, summarized through practice a high yield farming model of "small plant colonies, sturdy individual plants, and high accumulation" using leaf age models as a theoretical basis. As a result, experimental units achieved high yields, low expenditures, and increased benefits. Wheat yields increased by an average of about 200 jin per mu. At the Nanjing Academy of Agricultural Science, Assistant Professor Qian Weipu [6929 4850 2883] gained first hand experience for 3 years at Yezhuang Production Brigade in Shuyang County. He summarized farming methods suited to Huaibei Prefecture for high yields, consistent yields, low costs, and high benefits from semi-winter varieties, and spring varieties. In 1981, 100 mu of wheat in Yezhuang Production Brigade produced yields averaging 1,090.5 jin per mu, setting the first all-time high record of more than 1,000 jin per mu from 100 mu in the province. In 1982, despite unfavorable meteorological conditions, it again exceeded 1,000 jin. Provincial Academy of Agricultural Sciences assistant researcher, Guo Shaozheng [6753 4801 6927], set up a high yield model for "appropriate decrease in the number of basic seedlings, suitable decrease in the number of plant colonies, increased tillering and spike formation, and increased fruiting" at Yueqi Commune in Wu County. This also produced high yields, increased earnings, savings in labor, and cost savings. Results of experiments at all sites during the past 4 years showed tremendous increases in yields per unit of area of wheat or barley over large areas. For the past 3 years, average yields per unit of area have amounted to 896.6 jin as compared with average wheat yields for the province as a whole of somewhat more than 400 jin per mu, or more than double. Average net gains per mu increased by 31.32 yuan as compared with control fields, a 44.3 percent increase, and agricultural costs declined remarkably. Economic benefits derived from intermediate and low yield areas were even more remarkable. Net earnings increased by a general more than 80 percent as compared with control fields. Soil fertility also rose for an acceleration of more scientific agricultural production on large areas and for an energizing of large area production, with the result that low yields of wheat, barley, and naked barley became high yields, and high yields became even higher yields.

Now experience with 100 mu high yield wheat and barley techniques has been spread and applied to large areas throughout the province.

9432

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VICE GOVERNOR STRESSES CRUCIAL ROLE OF WATER CONSERVANCY

Beijing ZHONGGUO SHUILI [WATER CONSERVANCY IN CHINA] in Chinese No 2, Mar 83
pp 10-12

[Article by Zhang Guozhen, vice governor of Jiangxi Province: "Water Conservancy and Quadrupling"]

[Text] The 12th party congress issued the great call to usher in a new situation in the construction of socialist modernization, put forward the magnificent goal of quadrupling the gross annual value of industrial and agricultural output by the end of this century, and put in first place as a strategic focal point the acceleration of agricultural development. We must do all we can to do every specific job well and complete it at an early date.

Water Conservancy Is an Important Condition for Achieving the Quadrupling

Water conservancy is an important condition for accelerating the pace of agricultural development. Comrade Mao Zedong pointed out: "Water conservancy is the lifeblood of agriculture." In a speech at a conference of agricultural secretaries of the provinces, municipalities, and autonomous regions, Comrade Zhao Ziyang also clearly pointed out: "If agriculture is to be developed in the future, it is necessary to change the basic conditions of agricultural production." Among all the basic conditions, water conservancy is, without a doubt, the most basic. Therefore, the situation in water conservancy directly affects and conditions the speed of agricultural development. Looking at the situation in Jiangxi, we see that the many big, medium, and small water-conservancy projects built since the founding of the state have displayed enormous power in resisting natural disasters. Our province's gross agricultural output value has increased from 1.8 billion yuan in the initial period after liberation to 8.4 billion yuan in 1982. Water-conservancy construction is meritorious service. In June 1982, most areas in the province were struck by big floods produced by big rainstorms, and from the 11th to the 22d in 15 counties the average rainfall reached over 500 mm; in 21 counties the rainfall reached over 300 mm, and in Lichuan County, where the rainfall was strongest, it reached 622 mm. In the main rivers of Ganjiang and Fuhe, the water level at the highest flood peak exceeded the record by 4 to 6 cm. Because the water-conservancy projects displayed their benefits in blocking and resisting the floods, coupled with the correct flood control and emergency command, there were no accidents at the large and medium reservoirs and the large embankments

and dikes, so that flood disasters were effectively prevented or mitigated and the Zhejiang-Jiangxi railway was kept open. Coming on the heels of the floods, a drought threatened the growth of late rice, which occupied half the acreage planted to grain. The various types of projects retained over 20 billion cubic meters of floodwater, basically insuring water for irrigation so that a bumper harvest for the entire year was obtained. In addition to making up for losses caused by disasters, gross grain output increased 2.2 billion jin, an increase of 1.6 billion jin over that of the highest year in history, 1979, and the gross value of agricultural output increased 5 percent over that of the highest year in history, 1981. Before liberation there were very few water-conservancy installations in Jiangxi, and flood and drought disasters were frequent. In a 1949 flood, which was much smaller than that of 1982, boats traveled over what had been land in the urban districts of the provincial capital of Nanchang, and there were many refugees and beggars. Whether or not there is water-conservancy construction makes a big difference.

Jiangxi is south of the Changjiang River, and it has a temperate climate and abundant rainfall. Its agriculture, which is primarily grain production, is superior, and in particular the Boyanghu area is one of the country's important commodity-grain bases. After the founding of the state, there were big achievements in water-conservancy construction in our province, but there is still a big gap. Throughout the province, for close to 11 million mu of farmland there are no water-conservancy installations; on over 6 million mu, although there are installations, the drought-resistance capacity is low; the flood-resistance standards on over 6 million mu are low; and there is soil erosion on over 57 million mu. Based on data provided by relevant departments on plans for economic development and an analysis of the initial results of an evaluation of our province's water resources--in addition to the requirement that the embankments and dikes on the Ganjiang, Fuhe, Xiujiang, and Jiangxi Rivers be able to hold back floodwaters for 50 years, and the other dikes be able to hold floodwaters for 20 to 30 years--by 1985 the province's demand for water for agriculture will increase from the present 16.6 billion cubic meters to 18.5 billion cubic meters, and the demand for water for industry and urban life will increase from the present 1.8 billion cubic meters to 2.8 billion cubic meters; by the end of this century, the demand for water for agriculture will increase to 20.8 billion cubic meters, and the demand for water for industry and urban life will increase to 6.4 billion cubic meters--a total increase in demand of 8.7 billion cubic meters, or an annual average increase of 500 million cubic meters, equal to the total usable capacity of the existing large and medium reservoirs. If we only consider the building of new projects, no matter whether from the angle of terrain conditions or the construction capacity of the state and the masses, this increase will be hard to accomplish.

Put the Focus of Work on Curtailing the Flow

To solve the problem of the contradiction between the supply and demand of water resources in the near future, it is necessary, based on the principle of doing what is in our power, to build some new water-conservancy projects to increase the water sources under control, but it is more realistic to "curtail the flow." This is the breakthrough point for ushering in a new situation in

water conservancy and we must get a tight grip on it. Water used for agriculture accounts for about 80 percent of the water consumed by our province for the national economy. For a long time there has been a highly alarming waste of water resources. The average utilization coefficient of irrigation water in the province is only about 0.6, with a difference of only 0.35 to 0.4; according to the calculations of usable reservoir capacity, an average of over 600 cubic meters of water are used for 1 mu. In some places where there has been long-term flood irrigation, the water table has been raised and gleying has occurred in the soil, causing a new disaster in agricultural production.

Effectively conserve sources of water: 1. Put the prevention of seepage in irrigation ditches in first place in the project maintenance system. Based on the experience of the management units at the Shangyou Reservoir and Baita Canal projects, the water-utilization coefficient of irrigation ditches for which seepage prevention measures were taken were raised 0.2 to 0.3 in a given year, and irrigation ditches where seepage is serious could have their water-utilization coefficient doubled by such measures. If the utilization coefficients of irrigation ditches throughout the province were raised on average by 0.2, over 3 billion cubic meters of water could be saved every year. 2. Popularize scientific irrigation systems. Based on measurement data of the Gan-Fu Plain Project Irrigation Experimental Station, the intermittent irrigation method adopted for early rice, as compared to the current widely practiced irrigation method of shallow-deep-shallow-damp, the former uses 40 percent of the water for early rice and 27 percent for double-harvest rice, and saves even more water as compared to the traditional string-irrigation method. If intermittent irrigation were practiced universally, based on calculating a 27-percent savings, the large and medium irrigation districts alone could save 2.2 billion cubic meters of water. In places where ditches were dug for irrigation and drainage, the water table was lowered, and moist irrigation was put into practice, it was comparatively easy to raise the per-mu output of paddy rice by 100 to 300 jin. 3. Pay attention to reutilization of water sources, make full use of water remaining after being used for generating electricity. In irrigation districts where the management base is comparatively good, 10 to 15 percent of the water returned can usually be reused; irrigation districts where systems are not all-encompassing can reclaim even more water. 4. In a focused, step-by-step way, adopt spray, drip and seepage irrigation to check field evaporation. For areas where there is a serious insufficiency of water sources, this is really a good way of saving water and raising output. However, in our province, under the circumstances in which paddy rice is the main crop and energy sources are insufficient, we can only make gravity-flow irrigation primary, with mechanical irrigation being supplementary, and cannot take the West's path of "petroagriculture." 5. Strengthen protection of water sources, close hillsides to livestock grazing and fuel gathering in order to facilitate afforestation, and do good maintenance work on soil and water, so that there is long-flowing crystal-clear water. The existing water sources will not again be abandoned because of pollution, which causes a deterioration in the ecological environment. Usable water sources which have already been polluted must be treated well within a time limit.

Therefore, we must educate the masses of urban and rural people in conserving water so that a new style of stinting on the use of water is established;

strengthen water-use management. Vigorously put into practice the method of "planned distribution, fixed amount per field, fee-collecting according to amount, and awards for conservation, and add-on cost for overuse"; and firmly correct the way of doing things exemplified in the saying of "use a lot or use a little, 8 mao for every mu" and the idea of "if you pay the water charges, you will suffer a loss; if you don't, you will gain an advantage."

Because the existing water-conservancy projects are distributed unevenly by area, after water-conservation measures are adopted, there will still be many places which will be unable to satisfy water-use requirements, particularly the requirements of developing industries. Projects to transfer water from water-surplus areas are complex, and their cost of construction is high. Therefore, we must build a number of new projects. This requires that we lay a good foundation by evaluating water resources and dividing the land into water conservancy districts at the county level, as soon as possible formulate good drainage-area schemes, and mobilize the masses to build small farmland water-conservancy installations and hydropower stations that they can run, manage, and use well. In the future, following the development of industry, the proportion of water used by industry will increase constantly, and some of the existing projects will have to shift from making irrigation primary to making water for industrial use primary, and the contradiction between industry and agriculture contending for water will daily become more prominent. Therefore, we must also, based on requirements, initiate some large and medium multipurpose development projects. Based on Jiangxi's characteristics, with regard to the "turtlebacks," "spur pits," "sand ridges," "hanging-wall fields" and other dry land, for which the problem of water sources is hard to solve, we must make full use of the results of scientific research in agriculture; popularize the practices of digging winter pits for autumn droughts, turning over soil in winter to preserve soil moisture, and sending water by overland routes when waterways are blocked; and set up high-yield economic crop bases.

From the long-term point of view, good preservation of water and soil and extension of the earth's vegetation is the fundamental measure for conserving water sources, regulating the climate, taming rivers, reducing flood and drought disasters and lengthening the life of water-conservancy projects. Simultaneously with farmland water-conservancy construction, we should implement the policy of "giving equal weight to prevention and control, integrating control and management, making overall plans, carrying out overall administration, and abolishing what is harmful and promoting what is beneficial," proceeding from individual sites to the entire area and being vigorous about development.

The Crucial Question Is the Expansion of Economic Results

When Premier Zhao Ziyang was inspecting Shanxi in 1982, he incisively pointed out: "In the past 30 years of overhauling water conservancy, first there were great achievements, and second there have been relatively serious problems. The benefits displayed by water conservancy are not commensurate with the price paid for them by the state and the masses." This analysis gets at the crux of water-conservancy work. Over the past 3 years, on average, for every single mu on which irrigation has been added or improved, the subsidized funds

have been as high as 200 yuan and more. This trend should draw a great deal of attention. How are we to get good results from our investment, putting water conservancy on the track of making the improvement of economic results central?

First, we must, through the "three checks and three fixes" on water-conservancy projects, fix the scale of every project and, in line with advanced economic norms, make a comprehensive evaluation. For projects that have reached a certain standard of safety but have really not achieved the designed results, we should, through supplementary checks and management turnovers, see that the state does not again provide a subsidy in the future; we must downgrade those projects which have insufficient water sources and a small irrigation district, so as to make full use of their water in developing other undertakings. We must implant the idea of cost accounting and criticize the work style of "fishing," so as to give full play to the role of existing projects.

Second, we must emancipate our minds, be bold in making reforms, and universally put into practice the water-conservancy construction responsibility system. At present, various areas are practicing the farmland water-conservancy contract system, integrating closely the responsibilities, rights and interests of units undertaking the work; effectively overcoming waste in labor power, funds and materials; and reducing the construction period. This system should be further put into practice and perfected. In project management, there must be a leaping out of old circles and an opening up of new approaches. No matter whether it is a state- or collective-run project, the project, like a factory, should be regarded as a fixed asset and the water source administered as a commodity. We must expand the operating unit's right to act on its own initiative with respect to its manpower, finances and materials; and as far as possible use many economic methods to reduce administrative interference, put into practice contracts for results, maintenance, what is handed over and what is retained, and profits, gradually reducing or eliminating the state's financial subsidies. Small projects or single projects in large irrigation districts can still be contracted out to specialized teams or production brigade-household combined households. Within the management unit, the various production and management responsibility systems must be set up and perfected, so that the quality of a project's management is integrated with the personal interests of its staff and workers, and the idea of the past of "eating the food of officials and showing off the boat of an official" and shutting oneself up in "water yamen" is overcome. In the irrigation districts we must popularize water-use contracts and agreements between townships and people to protect water-conservancy projects and use water rationally, so as to put a stop to contention for water and disputes about control of water. Rely on the masses, on everybody, to give counsel on improving economic results.

Third, rely on scientific progress, and give full play to the role of water-conservancy scientists and technicians in water-conservancy construction and management. Water conservancy must be suited to the task of quadrupling the gross value of industrial and agricultural output. To rely solely on expanding investment of funds and labor in water conservancy is impossible and also

unrealistic. The only way is to rely on scientific progress in water conservancy. There is no way to estimate the potential of the productive force of science. In the 1960's, when dealing with leaks caused by cracks in the water-pressure drainage pipes of big dams, the method frequently adopted was to first dig around the dam and then blast the pipe, overturning layers of earth, which was a waste of labor, materials and money. The method now adopted is that of chemical additive-strengthening and grouting, which by spending several hundreds of yuan has an effect equal to the spending by the old method of several tens or even several hundreds of thousands of yuan. We must attach importance to the work of publicizing research and experiments in water-conservancy science. Currently, forces must be organized to tackle key problems in seepage-prevention methods, seepage-prevention materials, conservation of water, geological prospecting, terrain surveys, experimental measures, as well as control and application of existing projects. We must replenish and strengthen the forces of scientific research units; conscientiously implement well the policy on intellectuals; do good work in assessing people for promotion and in evaluating people for professional titles; and promote truly capable scientists and technicians to water-conservancy leadership posts at all levels, so as to give full play to their role. We must launch activities for "excellent design awards" in water-conservancy projects, conscientiously and thoroughly practice the method of awarding scientific innovations, and stimulate the enthusiasm of scientists and technicians so that our water-conservancy science will swiftly catch up with or overtake advanced world levels and effectively contribute to development of the national economy.

9727

CSO: 4007/124

COMMUNE INCOME INCREASE VIEWED

Shenyang LIAONING RIBAO in Chinese 9 Apr 83 p 1

[Text] The 1982 income distribution accounting work of the provincial rural peoples' communes aggregated by the Provincial Agricultural Bureau, has recently been completed. Many numbers clearly show that although the agricultural production in Liaoning suffered severe natural disasters last year, the income still reached a fairly high level. This is because the commonly promoted responsibility systems of the various forms linking output to contract had greatly mobilized the production enthusiasm of the broad commune members.

The total income of the basic accounting units in Liaoning's rural country reached 5,617,410,000 yuan, an increase of 182,730,000 yuan over 1981, or 3.4 percent. Commune members' collective distribution per capita reached 131 yuan, an increase of 6 yuan over 1981. The total income of the collective and the distributed income per capita both reached the highest level in history.

What is even more heartening is that there appeared in the province a large group of cities, counties and communes and brigades whose collective income level was fairly high. Among them, Shenyang City's income per capita was 226 yuan, an increase of 56 yuan over 1981. Fushun City's was 210 yuan, an increase of 67 yuan over the preceding year. The counties and prefectures that have over 200 yuan of distributed income per capita were increased from 11 to 15. The communes of Liaoning whose distributed income per capita exceeds 200 yuan have increased from 123 in 1981 to 343, a 1.8 fold increase, representing 28.8 percent of the total number of communes in Liaoning. The production brigades in Liaoning where distributed income per capita exceeded 300 yuan reached 1,046, a 1.5 fold increase over 1981, representing 6.7 percent of the total number of production brigades in Liaoning. There were nine production brigades whose income per capita exceeded 1,000 yuan. The production teams in Liaoning whose distributed income per capita exceeded 600 yuan had increased from 71 the preceding year to 163, a 1.3 fold increase. The production teams whose income exceeded 1,000 yuan had increased from 3 in 1981 to 18.

12310

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SPECIALIZED GRAIN HOUSEHOLDS SUPPORTED

Shenyang LIAONING RIBAO in Chinese 9 Apr 83 p 1

[Conversation with Miao Deyu [5379 1795 7183], Sujiatun District's party committee secretary: "Vigorously Support Specialized Grain Households and Build Stable Commodity Grain Bases"]

[Text] On 5 April, Shenyang city Sujiatun District Committee Secretary Miao Deyu [5379 1795 7183] told reporters: This year our district has resolved to grasp well the support of specialized grain households as a strategic measure to commodity grain bases. Aside from supporting the households that would sell 10,000 jin of commodity grain to the state, we will also stress supporting the 3,000 households that sell more than 20,000 jin of commodity grain to the state.

Miao Deyu said: They have seen, in practice, the important role that the specialized grain households played in the development of the commodity grain production. In the past 2 years, they had successively helped three specialized grain households. Last year, of these three households, one sold 60,000 jin of paddy rice to the state; another sold 23,000 jin of soybeans to the state; and the third household sold 35,000 jin of grain and beans to the state. Under the influence of these three households, more than 10,000 households in the whole district sold more than 10,000 jin of commodity grain to the state. From this they drew great inspiration and squared the accounts of the commodity grain sold to the state: they estimated that, because this year the whole district has universally implemented contractual responsibility system, households that can sell 10,000 jin of commodity grain to the state can reach 20,000, among which the district plans to emphasize supporting 3,000 households. With each household selling 20,000 jin of commodity grain to the state, the grand total could reach 230 million jin or 79 percent of the total commodity grain sold to the state in the whole district. This figure made the district realize that it must build stable commodity grain bases, and vigorously support the households that specialize in grain production so as to play their key role. The leadership focus of the district and the communes should also correspondingly turn to this aspect. Cadres, whether they stay at the grassroots unit to help improve its work and gain firsthand experience for guiding overall work or divide up the work and assign a part to each individual or group should put emphasis on supporting the households specializing in grain production. The district has drawn on four methods of support: First,

strengthening leadership in scientifically planting fields to enable peasants to become truly exemplary households in science and technology. Second, the production team's scattered land that is adaptable to many different uses and the land returned by the households that have left farming but remained in the villages were contracted to households specializing in grain production on a priority basis. Third, seeds and fertilizer are given priority considerations. Fourth, the specialized grain households that have financial difficulties were granted loans. At the same time, making selling 20,000 jin of commodity grain to the state by a household one of the prerequisites to being chosen as model workers. The district party committee appeals to the specialized grain households to make more contributions to the country, and strive to be model workers. Presently, the district is in the process of integrating the measures of spring planting and production, and implementation to support the specialized grain households one by one. Commune cadres must also define and ascertain which specialized households for which they are responsible, assign and support their work and have a thorough grasp.

12310

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MANAGEMENT RESPONSIBILITY SYSTEM IN WATER CONSERVANCY

Beijing ZHONGGUO SHUILI [WATER CONSERVANCY IN CHINA] in Chinese No 2, Mar 83
pp 19-22

[Article by He Zhengyuan [0149 2973 0337], Shaanxi Provincial Hydroelectric Power Bureau: "Establish and Perfect the Water-Conservancy Management Responsibility System, Bring Into Full Play the Benefits of Existing Projects"]

[Text] Since the founding of the state 32 years ago, the development of our province's water-conservancy construction has been very fast; the large number of water-conservancy projects built have played an important role in resisting drought and flood disasters, promoting increased agricultural output and supporting construction of the four modernizations. Currently, of the forms of the agricultural production responsibility system in the rural areas of our province, the form of "contracting work tasks to individual households" is being developed and perfected. According to a survey, in the rural areas throughout the province, practicing the responsibility system of "contracting work tasks to individual households" has swiftly developed from the original about 30 percent of the total number of production teams to over 90 percent.

Following the development and perfection of the agricultural production responsibility system, our province's water-conservancy management responsibility system, no matter whether at a state-run project or a project built by a commune or production team, has been set up in succession and is now gradually being perfected. According to statistics from a preliminary survey, 50 percent of the water-conservancy projects throughout the province have set up various forms of the responsibility system, among them: 34,970, or 64 percent, of the irrigation canals; 8,936, or 39 percent, of the pumping stations; 849, or 58 percent, of the reservoirs; 28,865, or 75 percent, of the ponds; 58,400, or 38 percent, of the electromechanical wells; and 1,092, or 82 percent, of the hydroelectric power stations.

In the various places where the water-conservancy management responsibility system has been set up and perfected, attention was paid to suiting measures to local conditions, having many forms, uniting what should be united, and contracting what should be contracted; arbitrary uniformity was not practiced. At present, the forms of the water-conservancy management responsibility system in our province can be broadly divided into two categories:

The first category is that of the state-managed large and medium irrigation districts, which include canals, reservoirs, pumping stations, etc. Generally they are being put under the unified leadership of a management bureau (office, station), which manages them according to the classification of the canal system. The institution's nature does not change, and it is operated like an enterprise. Water fees and income from the diversified economy pay all costs; financial contracts are made; the post responsibility system, in which responsibility devolves on a certain person, is established: the technical and economic indices are linked up; and various payments and awards are made. The method of remuneration differs from place to place: there is basic wage plus award; remuneration according to quota fulfillment; sharing the award for overfulfillment of production quotas; and the trial method of basic wage plus floating wage. Summing up, they are the following forms:

1. Quota turned over to the higher authorities, deduction of excess income, and no makeup of losses. Within the management unit contracts are made and quotas assigned to people. Assessments are made and rewards and penalties made good according to the "Technical and Economic Indices for Irrigation District Management" or the "Provisional Regulations Assessing State-Run Electrical and Mechanical Pumping Stations According to Eight Technical and Economic Indices," both of which were promulgated by the Ministry of Water Resources and Electric Power. This form is suitable for units that are self-sufficient and have surplus funds and that have a fairly high level of management. The irrigation districts of Luohui Canal in Weinan Prefecture and Nansha River Reservoir in Chinggu County have adopted this form.

2. Income is not turned over to higher authorities, differences are not made up, a balance is sought by the unit itself, and losses are made up in good years. Within the management unit, responsibility for tasks is shared and responsibility assigned to individuals. At each level there is a clear post responsibility system, and rewards and penalties are made good by twice-yearly assessments by the percentage method. This method is suitable for units that are self-sufficient in funds and have a fairly high level of management. Since 1980, the Jinghui Canal Management Bureau has comprehensively tried out financial contracts and business-type management. The Baoji Gorge Yinwei Management Bureau, on the basis of trying out business-type management in 1980, in 1982 from top to bottom, put into effect the linked output, linked responsibility economic responsibility system, implementing floating wages and also post allowances for some cadres, changing the two-level accounting by bureau and chief station to the three-level accounting and three-level management by bureau, chief station and station, with the station as the basic unit, and internally implementing the "four contracts." At the same time, with regard to individuals, it insists on examining their virtue, ability, diligence and merit, calculating awards by percentage, with the individual getting the highest percentage also getting the highest award, and both giving awards and imposing penalties, and making good on them. This year the winter irrigation task was fulfilled fairly well, and the vast majority of units in the bureau received awards. The spring irrigation task was fulfilled fairly poorly. The majority of units received awards, but some units neither received awards nor suffered penalties. For specific cases in which business-type losses occurred, 5,549 yuan in wages were deducted, among them 333 yuan were deducted from the

relevant leaders' wages at the bureau and section levels and 404 yuan from the wages of leaders at the station level.

3. Income is not turned over to the higher authorities, differences are made up, excessive losses are not made up and self-sufficiency is gradually achieved. Within the management unit, the post responsibility system is practiced, contracts are made by administrative level, and there are rewards for good fulfillment of tasks and reduction of material benefits for nonfulfillment of tasks. This form is suitable for units that are temporarily unable to be self-sufficient in funds and that have a limited income. The prefectures and cities of Weinan, Baoji, Xi'an, Hanzhong, and Yulin have adopted this form for most irrigation districts that cover over 10,000 mu.

The second category is that of the water-conservancy project facilities managed by the commune or production team, including projects in state-run irrigation districts that are managed by the commune or production team. Generally, people are released from the commune or production team, or from the benefiting commune or production team, to set up, under the unified leadership of the irrigation district's special management organization, management stations, specialized teams, irrigation groups and other management organizations of the masses to carry out management; and the contract responsibility system that links remuneration to results or to output is practiced. Based on differences in size, type, and production management system of the projects, this responsibility system can take the following forms:

1. Specialized contracts of several fixed amounts and one award or penalty. Based on the number and size of the projects, the production brigade or production team transfers a certain number of personnel to form specialized teams that carry out unified management of projects with specialized contracts, business management, and self-responsibility for profits and losses. This form is suitable for production brigades and teams that have fairly many water-conservancy projects or for fairly large projects. Ten persons of the Nanpan Production Brigade in Zancun Commune, Hancheng County, formed a specialized contract group that exercises unified management over pumping stations and the irrigation area of Panhe Reservoir. A single area of contracted irrigation is 1,650 mu, the wages of management personnel are 1,650 yuan, and the mechanical pump maintenance cost is 700 yuan.

2. Individual contracts. For some individual water-conservancy projects, e.g., mechanical wells, small ponds, small pumping stations, small hydroelectric power stations, based on specific circumstances, the production brigade or production team separately assigns the management, in contract form, to a team, household, or individual. According to the stipulations of the contract, there are several "assignments" and several "fixed amounts," and remuneration is linked to output or results. Some production teams also set aside 1 or 2 mu of land to be fields for supporting wells or stations, giving them exclusive right to plant and harvest so that the fields support the wells and stations, and the savings are returned to themselves or divided up proportionally. This form of the responsibility system is suited to individual, small projects. For example, the four well pumps of the Hancun No 2 Production Team of Chunlin Commune, Pucheng County, were assigned to Wu Guangzhou [0702 1639

1558] and one other person, who signed a 1-year contract. In 1 year they pumped water for 4,160 hours and irrigated 308 mu. The year's maintenance costs and remuneration of 800 yuan were paid by the team, and for every hour that commune members used the water for irrigation the team collected 0.5 yuan in fees. For every well that fulfilled its task well, an award of 20 yuan in cash was given, for every well that did not fulfill its task, there was a proportional deduction as a penalty.

3. Comprehensive contracts. This means that water-conservancy projects have unified contracts and unified accounting for fish rearing in ponds and planting along canals or for mechanized processing. This form is suitable for independent businesses and for project units that have income from sideline occupations. For example, the pumping station of the Taoli No 3 Production Team of Weidong Commune in Hancheng County made simultaneous contracts for fish reared in ponds, and used the income derived therefrom for the remuneration of the station's management personnel and for its maintenance costs, and it collected only electricity fees from the commune members who used the water for irrigation.

4. Combined household contracts. For some small projects like electrical and mechanical wells, the production team, according to the land taken care of by a household, makes combined household contracts for a well on that land, with regular management by specially assigned persons who pay their own costs. The Yidang Wan Production Brigade in Jingbian County has 104 mechanical wells. When fixing output quotas for each household, three to five households contract for one mechanical well and divide up the land around the well. The water-raising machines and tools are evaluated in terms of money and capital is insured. The using households jointly bear responsibility for maintenance and replacement, and the irrigation cost is shared by the households according to mu.

5. Large task responsibility. This means to assign the administration and management of water-conservancy project facilities such as small hydroelectric power stations, mechanical wells and small reservoirs to workers or households, so that the contractors are solely responsible for their own profits and losses with the exception of the yearly depreciation charge and the accumulation funds given to the commune and production team according to the provisions of the contract of the responsibility system. For example, the Lijiamen Hydroelectric Power Station of Xinjichuan Commune in Wugong County, which has an installed capacity of 12 kilowatts, had two commune members assigned to manage it. Excluding maintenance costs, the station has handed 200 yuan over to the higher authorities and the average income of the contractors was 150 yuan.

6. Seasonal contracts. With regard to some pumping station irrigation districts, excluding a small number of regular, year-round maintenance and conservation personnel, every year during the irrigation season people become both workers and peasants, and seasonal contracts are carried out. Through contracts signed between the pumping station, on the one hand, and the commune or production team, on the other, leadership is unified, there is the post responsibility system in which responsibility falls on a given person, machines

are started at regular intervals, and water distribution is unified. Assessments are made according to attendance rate and eight technical and economic indices at mechanical or electrical drainage and irrigation pumping stations, and every month some wages are distributed.

7. Spray-irrigation companies are set up. This is a responsibility system by which Shangxian County solves the problem of irrigation in mountain areas. The specific method is: with the commune as the unit, a spray-irrigation company is set up, business management is put into effect, and the management responsibility system for water use of "five [as published] fixes and one reward or penalty" is put into practice. Tasks are fixed, with every set of machines being responsible for an irrigation district of 60 mu; quality is fixed, with even and satisfactory spray-irrigation being insured so that after 24 hours the soil moisture content is not less than 3 inches; consumption is fixed, with accounts settled for a whole year, and if there is overconsumption deductions are made in remuneration; and remuneration is fixed, being calculated on the number of days worked on irrigation. In the yearly task, for every 1 mu more that is irrigated there is an award of 1 jiao, and for every 1 mu less that is irrigated there is a deduction of 5 fen. Nine communes in the county have set up spray-irrigation companies, and they have been deeply welcomed by the masses.

Marked results have been obtained by our province after it set up various forms of the responsibility system.

1. It has promoted overall economic management. The units responsible for financial affairs universally pay attention to economic management. Revenue and expenditure are planned, there is cost accounting for water use, there are quotas for labor, there is business accounting for the single pumping machine and the single transport vehicle, and the post responsibility system and rules and regulations have been set up and perfected. The Jinghui, Baoji Gorge Yinwei, and Dongfanghong irrigation districts have switched from their original one-level financial system of unified revenue and unified expenditure, or being reimbursed for what they spend, to the two-level or three-level accounting responsibility system, thereby remedying the malpractice of "eating out of one big pot" and "drinking out of one big pot."

2. It has raised the capacity of management units to be self-sufficient in funds. After the system of taking responsibility for one's own finances was put into effect, the management of financial revenue and expenditure, labor composition, electrical and mechanical maintenance, and economic diversification was strengthened, and the state of affairs in which revenue and expenditure was not planned and there was a reliance on state subsidies was gradually changed. In 1980, Weiman Prefecture put into effect in 13 irrigation districts of 10,000 mu or more the system of taking responsibility for their own finances. The annual plan loss was 280,000 yuan, with the result that the prefecture that year actually took in more revenue and saved more expenditure than expected, to the tune of 620,000 yuan. In 1981, the prefecture expanded the system to 36 irrigation districts, and the annual plan showed a surplus of 89,000 yuan, with the result that the prefecture that year actually took in more revenue and saved more expenditure than expected, to the tune of 509,000 yuan.

3. It has promoted the launching of economic diversification. All the management units have made full use of water and soil resources, manpower and material resources to open up ways of raising revenue, and have vigorously developed economic diversification. The Jinghui Canal Management Bureau has strengthened the business management of its construction brigade, repair and replacement factory, cement plant and comprehensive-utilization electrical power station, so that its yearly gross output value reached 1.1 million yuan, with a net profit of 50,000 yuan. The hostel opened by the bureau has made arrangements for a group of youths awaiting employment. Making use of its advantageous conditions, the electrical power station has opened a popsicle plant and a leather-buffing plant, which by economic diversification has increased its income by 20,000 yuan. In the past several years, the Luohui irrigation district has grown day lilies and medicinal materials beside all grades of its irrigation ditches, bringing in an average annual income of over 100,000 yuan. Because of the increased income of economic diversification along irrigation canals, in the past 3 years the irrigation district has built over 300 new houses, renovated over 2,000 buildings of various types, and lined with bricks and stone 185 kilometers of irrigation canals.

4. Water-conservancy management organizations have been set up and perfected at all levels, so that all canals, reservoirs, wells, stations, and some small water-conservancy projects are managed by someone. For example, in Pucheng County 17 communes have set up water-conservancy management stations, with a commune's principal leader acting as head of a given station, which has 48 full-time professional personnel; 317 production brigades have set up water-conservancy management teams, and 2,079 production teams have set up water-conservancy management personnel. After Hancheng County implemented the water-conservancy management responsibility system, it fixed the number of water-conservancy management personnel at 1,443 and strengthened the management and protection of projects.

5. It has promoted increases in agricultural production. According to a survey of well-irrigation districts in Dingbian County in northern Shaanxi, in production teams under the system of fixing output quotas based on households and the system of peasant households assuming full responsibility for task completion, after implementation of the mechanical-well management responsibility system, grain output increased 15 to 20 percent and per-mu output rose from 200 to 300 jin to about 500 jin. Contrary to this, in places where the water-conservancy management responsibility system has not been implemented, there is a comparatively serious problem of management of water-conservancy facilities not being good and of no one managing them; the projects fall into disrepair, and their benefits are lowered. Because the water-conservancy management system was not implemented in the Xiangyang Production Brigade of Bainijing Commune in this county, in 1982, 1,000 mu of irrigated land dried up, causing a drop in summer grain output of 200,000 jin.

6. The water-conservancy facilities have been protected, and the benefits of irrigation have been fulfilled. For example, after Hancheng County implemented the water-conservancy responsibility system, the water-conservancy facilities have not been damaged. The county's assured irrigated area is 54,800 mu, 1.9 percent higher than the average actual irrigated area in all

previous areas. At the pumping station of the Zancun Commune, the mechanical wells' effective area was 9,400 mu, and after implementation of the management responsibility system the assured irrigation area has been expanded by 558 mu.

In the process of setting up and perfecting the water-conservancy management responsibility system, we must carry out intensive investigation and studies, constantly sum up experiences, discover new problems, study new methods, and pay special attention to solving the following problems:

1. Suit measures to local conditions when selecting the form of the responsibility system. In suiting measures to local conditions, three points must receive attention: 1) the type and size of the water-conservancy facilities; 2) the degree of newness and the scope of the benefits received from a project; and 3) the technical level and management level of the contractor. The selection of the form of the responsibility system must be decided by consultation with the masses. Practice proves that copying mechanically in disregard of specific conditions frequently runs counter to objective reality, is not supported by the masses and implementation becomes a mere formality.

2. Focus on problems, study new methods. After the system of "fixing output quotas based on households" and the system of "peasant households assuming full responsibility for task completion" had been put into practice, countless households became users of water and there were many "threads" in water use; the sequence in water use, the allocation of the amounts of water, the maintenance and conservation of projects, and the collection of water fees posed new problems for the water-conservancy management units, so that they had to conscientiously make investigations and studies in order to solve them. A specific method of some counties for water-conservancy projects managed by the commune or production team is the "five unifications," that is, water-conservancy facilities come under the unified management of the commune or production team; field projects are set up in a unified manner by the commune or production team; the sequence in irrigation is arranged in a unified manner by the commune or production team; crop planting is arranged in a unified manner by the commune or production team; and the standards for water fees come under the unified business accounting and collection by the commune or production brigade.

3. The contents of a responsibility system contract must be clear-cut and its quotas rational. The Beiguan No 4 Production Team of the Chengguan Commune in Pucheng County contracted the management of its two mechanical wells to a member of another commune. The contract was concluded, but the tasks were not fixed. For 1 year, the maintenance fees and remuneration totaled 1,700 yuan, with the result that in half a year 850 yuan had to be paid out to irrigate only 50 mu. Therefore, when signing a responsibility system contract, all technical and economic indices and tasks, the number of mechanical pumps in good condition, the maintenance fees, the depreciation charges, the standards for collecting charges for water and electricity, the remuneration for the contractor, and the method of awards and penalties must be conscientiously investigated and studied and rational decisions on them reached through consultation. The more explicitly the responsibilities are stipulated, the better; the more direct the interests are integrated, the better; and the simpler and easier to do the methods stipulated, the better.

4. Charges for water and electricity must be put under a strict system and managed well. After the agricultural production responsibility system was put into effect, the basic unit using water became the commune-member household. In water-conservancy projects managed by the commune or production team, there exists a situation in some production teams in which there is confusion about the collection and handing over of water fees and arbitrarily set standards for collecting fees, and even misappropriation, a situation which adds to the burden on the masses. In the Chunxing No 4 Production Team of Jiagu Commune in Pucheng County, four commune members jointly contracted to manage four mechanical wells. The hourly fee of 0.7 yuan they collected at the beginning rose to 1 yuan, and, excluding the electricity and maintenance fees turned over, each one's share per month was approximately 100 yuan. The result was that the contractors pressed the commune members to irrigate, but the commune members, resenting the high charges for water and electricity, did not want the water. Focusing on this problem, the Chenzhuang Commune in Pucheng County put into effect the system of "one account, one schedule, and one book." "One account" means that the production team sets up a current account for amount of water and water fees; "one schedule" means that a schedule is made public registering the amount of water and water fee by household and that accounts are squared and made public after every turn of irrigation; and "one book" means the commune member's handbook showing water use and fees in which every fee collected is registered, and every time there is irrigation the accounts for the amount of water and the water fee are squared. This way of doing things gives the commune members a fairly clear idea of how things stand and satisfies the masses.

5. Strengthen leadership and abide by contracts. The setting up of a responsibility system contract certainly must be decided democratically after earnest discussion by the cadres and masses. Contracts certainly must be achieved by the cadres, masses and contractors meeting with each other and all being satisfied. Before a contract can go into effect, it must be signed and sealed by the two parties, A and B, and sent to the supervising and certifying organizations for sealing and putting on record. Once a responsibility system contract is signed, the two parties must abide by it, cadres cannot exchange it, and it cannot be changed. If it is not abided by, there must be compensation for certain economic losses.

6. Rely on the masses, set up and perfect systems. In Pucheng County's water-conservancy management responsibility system, 15 communes have signed agreements on all-commune water-conservancy management methods, and 156 production brigades and 911 production teams have signed agreements on water management systems and pacts on water use. These systems have had marked results in the protection of order in water use and the maintenance of projects.

7. Bring the water-conservancy management responsibility system into the orbit of the agricultural production responsibility system. At present, the province's agricultural production responsibility system has entered the stage of being perfected and stabilized. Therefore, the water-conservancy management responsibility system must be tightly grasped and carried out. Each water-conservancy project management unit must, under the leadership of all local levels of the party and government and while the agricultural production

responsibility system is being perfected, vigorously set up and perfect the water-conservancy management responsibility system.

8. Strengthen the work of ideological education and technical training for contracting personnel. Personnel who have already contracted to manage water-conservancy projects must establish the idea of long-term good management and good use of the projects, and stability of personnel must be maintained. Counties and communes that have fairly many water-conservancy facilities must conduct periodic training of personnel who have contracted for the project facilities. In Pucheng County, 11 communes have trained 1,122 mechanical-pump operators and water-conservancy management personnel, thereby raising their management and technical levels.

9. Firmly put a stop to illegal behavior that damages the facilities of water-conservancy projects. With regard to areas that practice the agricultural production responsibility system of fixing output quotas based on households and of peasant households assuming full responsibility for task completion, leadership must truly be strengthened, management methods and stipulations of agreements between villagers must be formulated to protect water-conservancy projects, and the integrity of project facilities must be insured. On 11 August 1982, the provisional people's government issued the "Notice on Strictly Prohibiting Damage to Water-Conservancy and Water-Protection Facilities" and the "General Order on Strictly Prohibiting Damage to Water-Conservancy and Water-Protection Facilities." Water-conservancy and water-protection departments at all levels and water-conservancy management units, under the leadership of all levels of government, must vigorously launch propaganda and education on them, firmly and thoroughly implement them, and, in close coordination with the departments concerned, organize a certain force to investigate and deal with this problem, and as fast as possible check the unhealthy tendency to damage water-conservancy and water-production facilities.

9727

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LIVE HOG PROCUREMENT POLICIES CHANGED

Major Policy Changes

Jinan DAZHONG RIBAO in Chinese 3 Jun 83 p 1

[Text] In order to solve the contradiction whereby live hog production seasonally exceeds sales, following approval by the Provincial People's Government, the Provincial Department of Commerce, the Commodity Price Department, the Department of Finance, and the Revenue Bureau are currently taking action to readjust live hog procurement and marketing policies for a further enlivening of business. They are working within the province to expand sales, and using greater sales to stimulate greater procurement in order to support and protect live hog production. The principal newly adopted policies are as follows:

1. Multi-channel Procurement and Marketing. Peasants will be permitted to dispose of live hogs that are not a part of state assigned procurement contracts and following fulfillment of assigned procurement quotas. Grassroots supply and marketing cooperatives, other cooperative businesses, specialized households, and households holding butchering permits will be permitted to transport live hogs over long distances for sale to widen circulation channels, and to encourage more sales and distant sales. State-owned food businesses should participate actively in market regulation.

2. Solution to the Problem in Some Cities of Meat Supplies Being Restricted by Financial Subsidies to the Impairment of Large Sales. Institution of fixed quota subsidies for individual kinds of pork sold in cities on which losses result from policies to encourage cities to liberalize supplies of more kinds. Some hog sources are inadequate, and districts in small cities and county seats that are not self-sufficient in pork should actively organize a redistribution of sources of supply and do business at negotiated prices once a ration at parity prices has been assured for the non-agricultural population. There should be assured supply of fixed rations, and unrestricted supply at negotiated prices; markets should be allowed to have both parity

prices and negotiated prices. Negotiated market prices should be set according to negotiated procurement prices to guarantee a return plus a tiny profit, and independent accounting should be instituted.

3. Organization To Even Out Surpluses and Shortages Among Areas, With Temporary Exemption From Taxes. Prefectures that are rather short of hogs may deal directly with hog producing areas for the transfer of live hogs and frozen pork, buying and selling being done at negotiated prices as the market dictates. During the 3 months of June, July, and August, some counties and municipalities that have organized transfers of hogs in and out to even up surpluses and shortages may individually request revenue departments for temporary exemption from purchases taxes and retail taxes.

4. Reduction in the Number of Links, Decline in Costs, and Improvements in Methods of Doing Business. In places having conspicuous contradictions between production and marketing, grassroots food stations should organize forces to butcher and market hogs on behalf of the people, selling the pork on the basis of costs with only a small handling fee being charged. They may also forge partnership links with cities or go into cities directly to set up stalls to sell pork, doing everything possible to help the masses solve the problem of markets for their pork.

5. Pilot Projects For Seasonal Price Differences. During the stifflingly hot season, live hog production areas should be permitted to let procurement prices drift downward by between 5 to 8 percent. At other times, prevailing prices should be instituted in order to ameliorate seasonal contradictions between production and marketing of live hogs.

6. Regulation of Differences in Grade. The existing regulation whereby the fatter the hogs the higher the grade is irrational. In order to encourage development of live hogs with a high lean meat rate that are of good quality, the prevailing method of "setting price by dressing rate and figuring price by gross dressed weight" is to be changed to "setting grade by gross weight, setting grade by dressing rate, and figuring price by gross dressed weight. Hogs with a gross weight of between 170 to 210 jin will be prime grade hogs, but those with a gross weight of less than 170 jin or more than 210 jin will both be second grade hogs, and the procurement price paid for second grade hogs will be 4 percent less than for prime grade hogs. The new differential price for procurement grade will become effective as of 1 October, so hog raising households should readjust their production in a planned way in order to avoid raising overly

large fattened hogs that will reduce their earnings.

7. Downward Adjustment of Prices and Temporary Price Reduction to Sell Frozen Pork in Storage, to Clear Storage Space, and to Support Procurement. Inasmuch as implementation of plans for allocations and transfers from outside the province has been slight for the first half of the year, all jurisdictions should actively seek marketing avenues outside plan. Beginning now and up until the end of August, the allocation and transfer price outside of plan may temporarily fluctuate downward in order to open marketing avenues outside the province. In addition, places having large quantities of pork in storage may lower prices to get rid of some of their stored frozen meat so as to clear storage price, support procurement, and solve the masses' problem of "difficulties in selling hogs."

8. Improvement in Supply Methods and Upgrading of Quality of Service. The most fundamental way in which to solve the problem of "difficulty in selling hogs" is to expand sales locally and within the province, using sales to promote procurement, and to enliven the market. All food stations and retail outlets in cities and the countryside should work to sell pork everyday and all day long, and they should organize staff and workers as well as commission agents to travel from village to village, and should sell pork at fixed sites and fixed times, pork being sold in each village at least once every other day. It is recommended that hogs be killed at single sites and sold at many sites. In addition to continuing to deal in cuts of pork and packaging them, municipalities under jurisdiction of provincial or prefectural governments should actively promote sales of whole pork sections, and not sell only choice strips from the belly.

Solution to Seasonal Pork Gluts

Jinan DAZHONG RIBAO in Chinese 3 Jun 83 p 1

[Editorial]

[Text] With implementation of the party's' various rural economic policies, Shandong Province's live hog production has developed very rapidly during the past several years. Comparison of 1982 with 1978 shows a more than 40 percent increase in removals from inventory, a 30 percent increase in quantities procured by the state, and a steady moderation of shortages in supply of pork in city and countryside. The live pork production situation has changed from a seller's market to a buyer's market, changing the more than 20 year protracted shortage of pork. This is a very good situation. However, as a result of incomplete readjustment of procurement and marketing policies and the commodity flow system, seasonal and regional contradictions between production and marketing have become increasingly pronounced. During the

second and third quarter of each year, "difficulty selling hogs" appears in varying degrees in major live hog producing areas. This impairs mass enthusiasm for hog raising. Effective action must be taken serious attention devoted to solution of this situation.

Live hog production is major matter of overall importance relating to development of rural economic diversification, to increasing the masses' income and assuring pork supplies for city and countryside, to improving the people's livelihood, and to stabilizing market prices. Consequently, the state has designated live hogs a Category II agricultural sideline product. Many years experience has demonstrated that for livestock products such as live hogs that have substantial affect on the national economy and the people's livelihood, a program must be pursued in which the planned economy is the key link and market regulation supplementary, with the practice of assigned procurement policies. Procurement of live hogs for which quotas have been assigned is done by contract. In the case of live hogs for which there are no assigned procurement contracts, and those remaining following fulfillment of assigned procurement quotas, liberal policies have been instituted permitting dealings through numerous channels. While taking firm hold on live hog assigned procurement quotas, the state-owned commercial sector actively develops procurement and marketing at negotiated prices, and participates in market regulation. Only in this way is it possible to enliven dealings in live hogs.

Currently very great changes have taken place in mass demands for fat and lean pork. In order to meet these changes, rational readjustments should be made of of prices paid for different grades, and seasonal price differences for procurement of live hogs should be instituted. Price laws should be used to direct production and marketing. According to existing regulations, the fatter the hog, the higher the grade and the price. This encourages peasants to produce overly fat live hogs. If this situation continues, it is bound to produce a situation of inability to buy or sell. Conversely, it can impede development of live hog production. Only by properly readjusting differences in prices of grades of live hogs will it be possible to encourage and lead peasants to raise live hogs with a higher lean meat rate and with good quality meat. Institution of seasonal price differences, with a downward fluctuation of prices during the stifflingly hot season might seem to reduce the masses' income somewhat. In reality, a slightly lower price can both help expand sales with the result that fattened hogs will be removed from inventory, and can promote production. This is in keeping with objective economic laws.

In terms of live hog development trends, emphasis must be placed on expanding sales within the province. Formerly Shandong Province shipped a fairly substantial number of live hogs outside the province, shipping about 3 million head each year. Circumstances have changed today. Live hog production in fraternal provinces and municipalities has developed; the level of self-sufficiency in pork has risen; and the number shipped has decreased greatly. In order to solve the contradiction of live hog production being greater than sales in Shandong Province, it is impossible to pin further hopes on an expansion of shipments outside the province. All departments dealing in foodstuffs must correct their tendency to think in terms of increasing shipments elsewhere while overlooking sales within the province. They must turn their business thinking inside the province and toward local markets. Today the level of pork consumption within the province remains very low. In 1982 the people in the cities and countryside of the province ate an average of only 16 jin of pork annually, demonstrating that the potential for sales is very large. So long as we conscientiously readjust sales policies, actively organizing an evening out between places with surpluses and shortages, improve business methods, upgrade the quality of service, take more action on sales within the province, and make sure that city and country markets have ample supplies of pork, it is entirely possible to attain the goal of greater sales promoting greater procurement to solve the seasonal problem of the masses of "difficulty in selling pork."

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FARM MACHINERY SALES DECREASE ANALYZED

Shenyang SHICHANG ZHOU BAO [MARKET WEEKLY] in Chinese 11 Jan 83 p 2

[In the column of Product and Market News, "Why the Marketing of Farm Machinery Decreases Every Year"]

[Text] According to the analysis of concerned departments, the primary reasons for the decrease in the sale of farm machinery in recent years are:

(1) Mechanization in the entire country had a poor foundation to start with, the degree of mechanization also is not equal, especially after implementing the system of responsibility in production. These factors brought a definite impact on the production and marketing of farm machinery, which were unable to change in time with the changes in circumstances of production, and especially in the large-margin decrease in marketing the large-scale farm machinery and equipments.

(2) Before 1978, many villages were collectively and centrally managed. Very few individual commune members purchased farm machinery. Part of the loans for the collective to purchase farm machinery was interest-free from the state. After 1978, especially since implementing the system of responsibility in agricultural production, the state abolished this interest-free loan, so that most of the farm implements that farmers purchase are from self-raised funds. As a result, collective purchases have decreased.

(3) Land is distributed to or contracted to individual farmers. As a result, plots are smaller, and large-scale mechanized work becomes limited.

(4) Changes have occurred in the farm machinery marketing structure; originally large and medium types were primary targets of production. But now small-scale farm machinery and semimechanized farm tools have become more suitable to the present agricultural production scale and rural purchasing power level, thereby meeting the demands of the commune individual households' and collective households' purchasing power.

(5) Policy Impact: 1. There are no centralized stipulations on whether or not to allow private persons to purchase tractors. Peasants do not know the real situation regarding policies, so are unwilling to invest. Some places stipulate that means of production can only be sold to collectives, not

individuals. Some places stipulate that only small, not large machinery, can be sold to the private persons.

2. The fuel (oil) supply is decreasing. As reflected in various areas in recent years, the number of farm machinery has increased and the supply of fuel (oil) has decreased. Some areas would sell machinery but furnish no fuel. Previously, the fuel (oil) supplied was based on the horsepower. Now, it is based on the work item. Most areas limit the supply of the fuel (oil) to transportation purpose, and only insure oil to be used for work in the fields and irrigation. A set of machines bought by the peasants could only be used during the busy farm season while laid unused most of the time. This is a definite obstacle to farmers buying machinery.

3. The loans for buying machinery have decreased. Originally, loans were only given to collectives and not individuals. Now collectives can hardly buy farm machinery.

4. The quality and variety of farm machinery products are far from meeting the broad rural demands. Peasants demand farm tools that are of quality, versatile, small scale and with low price.

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HONG KONG MEDIA ON CHINA

STRENGTHENING PRC LAND MANAGEMENT URGED

Hong Kong WEN HUI BAO in Chinese 23, 24, 25, 28 Jun 83

[23 Jun 83 p 7]

[Feature by Li Kehua [2621 0460 5478]: "Concerning Some Questions on Strengthening China's Land Management?]

[Text] A May 29 Japanese newspaper, reporting on the general situation concerning work and discussions of land management throughout the country, in an article entitled "China Strengthens Land Management, Strictly Forbids Rental and Sale of Land," has roused interest among readers abroad in questions about China's land management. For this reason, the present writer has undertaken to broadly discuss for the benefit of readers the connections between theory and practice, based upon the relevant materials at hand, with regard to the questions of the evolution of Chinese land ownership, the importance of strengthening China's land management, and the basic principles which must be firmly adhered to in land management.

The Historical Evolution of the System of Land Ownership

As is well known, before liberation China underwent the experience of semi-feudal semicolonial society. In feudal society, even though there still existed private ownership of land by slaveholders in certain minority peoples' regions, such instances were rare. Primarily, it was a system of feudal or semifeudal private ownership. Landlords and wealthy farmers who made up less than 10 percent of the entire nation's agrarian population occupied over 70 percent of the total land. This land-rich class then rented its privately held land to peasants to cultivate, engaging in extraeconomic and forced exploitation, with their major mode of collecting rent from the peasants being rent in kind. In this period, because the landlords held a monopoly on land ownership, there was obviously no such thing as peasant ownership of land.

The 1952 Division of Land Among Peasants Throughout the Country

Soon after the People's Republic of China was founded, China carried out land reform. This was successfully completed by 1952, resulting in that "to the tillers went the soil." That is to say, excluding the minority regions of

organization into people's communes, it was still "three-level accounting with the production team as basic unit." Even with the three-levels of accounting--commune, production brigade and production team--it was the production team which was the basic accounting unit. In this period, land--just like such means of production as domestic animals and farm equipment--was in general collectively owned by the production team. At this time, land ownership (jurisdiction) and users' rights were both collective. This is exactly what economists consider the "three-in-one" integration of socialist agriculture: landowners, land managers and those laborers who actually work the land are unified; it is quite unlike the "three separate situation (that is, separation between large landowners, agricultural capitalists and employed laborers) which exists in capitalists and employed laborers) which exists in capitalist societies.

[24 Jun 83 p 10]

[Text] Division of Land Among Households; Family Assumes Responsibility

For the past several years, China has been carrying out reform of its economic system, while the reform of the agricultural system has gone one step ahead. In rural areas, the most prevalently implemented modes have been the responsibility systems of contracts linked to production and of family contracts. Some still "divide land among households" and "divide responsibility among households". However, arable land may not be bought or sold. Individual peasants have no right to rent or transfer possession of land. At this time, the right to use the land rests temporarily with the individual household but rights of ownership do not change; they continue to reside collectively with the commune or production team. In the past, owing to the interference of the "left," it seemed as though the more collectivization the better, when in reality the question of whether production relationships and productive forces were suited to each other or not was not taken into account, resulting in an endangering situation. Now certain production relationships and management systems which were not appropriate to productive forces have undergone modification in order to promote an overall rise and eventual advance in those productive forces.

Even though there have been some reforms in agriculture, there has still been no change in the collective nature of ownership; and by extension, therefore, there has been no change in its socialist nature.

Private House Property Still Existent in Urban Areas

Of course, not all land in China is collectively owned. There is also a higher form of public ownership--national ownership. In the initial period of liberation, the nation ruled in accordance with the "Laws on Land Reform" that private land (including that of ancestral halls, temples, shrines, churches, schools, and land in rural areas of organizations and industrial and commercial establishments, along with most of the land rented out by wealthy peasants) would undergo collection, so that outside of a portion given to peasants lacking land, the remainder would be nationalized. The

Tibet and Xinjiang, and Taiwan, approximately 300 million landless or land-lacking peasants divided up 700 million mu (47 million hectares) of land. The ownership of the land had been stripped from the lands of the landlords; it had changed to private ownership by the peasants. The party and the government, in passing reforms which liberated the broad mass of peasants from feudal and exploitative relationships, garnered their uniform support.

After agrarian reform, land went from private ownership by a tiny minority of landlords to private ownership by the great majority of peasants; this was a great advancement in Chinese history. However, the peasants after agrarian reform were still just individual peasants. This kind of individual economy, dispersed venture and technical backwardness, combined with the fact that the work force of individual agricultural households was not equalized and could not adequately resist the shock of natural disasters made it easy for a polarization to come about. Also, it happened in practice that some people sold their land and some rented it out, which was not conducive to a stable peasant economy. Thus, it was only by going the road of collectivization that this problem could be resolved.

Implementation of the Collective System of Land Ownership

It was thus that not long after agrarian reform the party and the nation adopted the typical, exemplary method of implementing agricultural collectivization in extensive rural areas based upon the principles of voluntary participation and mutual benefit--first popularizing mutual aid groups as the germinating substance of socialism, then developing the elementary agricultural producer cooperatives of a quasisocialist nature having as a special feature unified enterprise with land held as shares, and then, going one step further, establishing advanced agricultural producer cooperatives of a completely socialist nature with land or important means of production collectivized. During the period of mutual aid groups, the special feature of mutual aid was that I would help you and you would help me, while the land was still privately owned by the peasants; there was really no change yet in the system of ownership. With the elementary agricultural producer cooperatives there was merely emphasis on unified enterprise with land as shares, without yet abandoning the private system of land ownership. It was only by admitting to a private system of land ownership that land could be considered shares; and once so considered, then there had to be dividends on these land shares. This illustrates that the elementary agricultural producer cooperatives in no way negated private ownership. It was only with the stage of advanced agricultural producer cooperatives that a transformation in the rights of land ownership took place. Not only was the amount of land under centralized management extended, but the nature of land ownership changes as well, going from private ownership by members of the cooperative to collective ownership by the advanced cooperative itself.

Three-level Accounting With the Production Team as Basic Unit

After the advanced agricultural producer cooperatives had been transformed into people's communes, from the standpoint of degree of collectivization, the latter was more advanced than the former. Generally speaking, after

land on state farms belonged to the nation. As far as urban areas went, although the government did not announce the nationalization of urban land, yet after 1956 with the completion of the socialization of means of production, these also underwent nationalization. That is to say, in our country, according to some statistics, more than 95 percent of urban land underwent nationalization. Less than 5 percent of private domiciles and the land beneath them remained in private hands. Thus in the case of collective ownership and private ownership alike, going forth with construction required the acquisition of permission from the owners along with reasonable arrangements to compensate for losses and conscientious treatment.

Since the founding of the nation, the government has always paid attention to land management with a certain degree of effectiveness. However, owing to many years of "left" errors along with the "10 years of turmoil," instances of land wastage have been exceedingly notable. Especially in recent years there have appeared new situations and problems which make strengthening land management even more urgent.

Population Explosion; Limited Land

First of all, population is increasing rapidly while land resources are limited, resulting in a reduced amount of tilled land per capita. In the initial period of liberation, China's population was a few hundred million; but because of "left" errors criticizing the ideas of Ma Yinchu [7456 1377 0443] on population control, population and births were uncontrolled. For example, Guangdong Province from the standpoint of natural geographical structure is a place "seven parts mountain, one part water, and two parts field." By 1982 the population of the entire province had already reached 59.8 million, a 99.6 percent increase over 1949. In 1949, the per capita tilled land for the province was 1.5 mu. In 1981—even with the 5 percent increase of tilled land owing to reclamation, etc.,—the tilled land per capita fell to 0.79 mu.

In the 30 years since the founding of the nation, Guangdong's average annual rate of increase in cereal grains has been 5 percent, whereas the per capita rate of increase has been only 1 percent. If population is not controlled and land management is not strengthened so that population develops at the present rate, per capita tilled land will be one-half what it is now and per capita foodstuffs will be below recent levels. Again, in the case of Liaoning Province, where currently there are 145,700 square kilometers of land resources, it is "six parts mountain, one part water, and three parts field." With so much mountainous land and so little flatland, Liaoning's tilled land is limited—merely 55,638,000 mu, or 1.6 mu per capita. Since the founding, tilled land has been reduced by 15,452,000 mu—on an average 482,000 mu per year, which is about the area of tilled land in a medium sized or smaller county. With the population increasing and the amount of tilled land unable to be increased, the implementing of careful and skillful land management is extremely urgent.

[25 Jun 83 p 7]

[Text] Secondly, use of land for building is excessive, and another reason for a decrease in land. For example in Liaoning, according to some statistical analyses, use of land for building is reflected in three areas. First is capital construction. In the past 32 years, various sorts of capital construction have used 20,218,000 mu of land, of which 6.9 million were for national capital construction and 8.86 million are for agricultural capital construction. Second is the expansion of urban areas, which in 1980 exceeded liberation period usage of tilled land (mostly vegetables) by 3,700 mu. Third is housing construction in rural areas--especially by peasants. From 1979-1981 among communes and production brigades throughout the province, commune/brigade ventures and commune member housing construction has occupied over 300,000 mu of land. The more than 1,000 commune/brigade brick-works throughout the province altogether occupy more than 60,000 mu! Etc...

Illegal Use of Land for Private Dwellings

Third, from the standpoint of rectifying cadres' incorrect practice of unlawfully building illegal private dwellings, the strengthening of land management is extremely necessary. According to the 3 Jun 83 report of GUANGDONG RIBAO, in Zengcheng County of that province a vice director of the Cultural Bureau exchanged, for the paltry price of 2 tons of steel and 43 yuan, a 177 square meter piece of land with his production team, and in addition took advantage of the fact that his unit was mobilized for capital construction to use more than 10,000 bricks, 5 tons of concrete and other building materials, while drawing upon collective building manpower and transportation equipment to construct a private dwelling. A vice president of the county Agricultural Bank also acquired land as a condition for helping the production team purchase 2,500 jin of steel. Also, using the name of the brigade, he made use of collective funds to cheat in the purchase of steel, concrete and bricks as building materials to construct a private house, all the while underpaying the brigade in building expenses and transportation expenses. Even though these are isolated cases of taking advantage of position to use public lands to illegally build a "cozy nest," the nation is engaged in investigating and punishing according to law. Yet if this unhealthy tendency is not rectified, not only will individual cadres go bad, but designated farmland will be nibbled away and decrease year by year.

Opening Cultivation of Uplands Brings Disaster to Lowlands

Fourth, even reclamation can be hindered by the ecological balance, and reclamation cannot be counted on to increase the area of arable land. For example, the Ankang Mountain region of Shaanxi was considered to be an area with potential for development. Population went from 1.49 million in 1949 to 2.59 million now--an increase of 70 percent, while tilled land went from 5 million mu in the fifties to 8 million in the seventies. According to some people, the total reclaimed and cultivated wasteland amounts to 30 percent, more or less. Yet, owing to excessive cultivation, timbering and water erosion, "opening cultivation of uplands brings disaster to lowlands."

determining new laws and regulations in accordance with the new situation. This is extremely good. Going forward in accordance with socialist modernization, we should formulate even more detailed land laws to reflect Chinese land management and strengthen other subsidiary laws, to establish a system of laws and regulations with special Chinese characteristics, so that land management can come forth with a benchmark for the legal administration of land. Also, it is law which must be examined and it is law which must be strictly upheld.

Second, we must get control of the propagandizing power of education to teach cadres and peasants that although our nation is vast, arable land is limited, and that as population increases, the contradictions between shrinking land and more numerous people will grow more and more acute. If we lose our control of land usage, not only will it influence current development of agricultural production and the improvement of the people's livelihood, but it may lead to long-term disastrous consequences which may be difficult to repair, even in generations to come. Therefore, we must encourage conservation in land use and never permit any person or unit to use arable land disruptively or wastefully.

Exert Efforts to Use Less Land in Homebuilding

Third, there should be overall planning in building housing in rural areas as well as reasonable arrangements. Rural communes and brigades should suit measures to local conditions to come up with overall plans for housebuilding, make full use of slopes, wastelands, and sites of makeshift dwellings, and strive not to use arable land. In order to conserve the use of land, they should select building styles which are suited to local conditions. In mountain regions residences should conform to slopes; in loess regions building of cave dwellings should be encouraged. In cities and suburbs where population is great and land is scarce multistoried houses should be encouraged. In those communes and brigades which suffer natural limitations, where arable land must be used, permission should be granted.

Fourth, questions of land ownership and jurisdiction should be reiterated. Commune and brigade lands in rural areas must still be under collective ownership. In instances of distributing land to commune members for dwellings, personal plots and contractual tilling land, commune members may only have user rights and not owners' rights. Nor must they be permitted to rent out, buy or sell, or arbitrarily transfer possession, nor to build houses or set up gravesites, mines, or brickworks, etc., on contract or personal plots. For some people to take fields under their responsibility or fields for which they have fixed quotas as individual property to be used as one pleases is illegal.

Pay Special Attention to a Land Judicial System

Fifth, special attention should be paid to a land judicial system to control unreasonable land use. A court of justice for land should be initiated comprehensively so that neither is land wasted nor is the urgent need for engineering construction ignored. Unreasonable use of land should be

According to hydrologic station estimates, in the 10 years from 1968 to 1977 water erosion in the Ankang region reached 111 million tons, the equivalent of removing a foot of soil from 230,000 mu of land. This erosion begins with the word "flow," first eating away untilled slopes, then inundating rice paddies and springs, elevating river beds close by and collecting in ponds, obstructing culverts, and then moving from the Han River into the Yangtze, eventually exacerbating the transformation of the Yangtze into another Yellow River. From this standpoint, ignoring the ecological balance and reclaiming large areas of wasteland to increase arable land is not feasible.

The Need to Consider Ecological Balance

Fifth, from the standpoint of enriching posterity, the strengthening of land management is a task of top priority. We are not opposing reclamation to increase arable land out of hand; but the ecological balance of nature must be a starting premise. In the case of Guangdong, according to relevant reports, three counties have become involved in reclamation projects in Huiyang County alone and have opened up 60,000 mu of former mountain, lake, wetland and beach areas. Reclamation projects are of course permissible, but there should be reasonable demonstrations as far as the opening up of wasteland with regard to the ecological balance of nature. Even if reclamation can open up a specified amount of arable land, subsequent industrial transportation and transport, urban construction and residential construction development can reduce the area of land thus opened up a great deal. The key to the problem is to be reasonable in utilizing arable land--"Where there is an inch of land, preserve it for posterity" will bring wealth to future generations.

As the foregoing analysis illustrates, strengthening land management is not now already too late; there is a great need to concert action in adopting measures to strengthen management.

[28 Jun 83 p 9]

[Text] Now, in light of the new situation, we must go one step further to strengthen land management.

The Times Change and New Precedents Are Born

First, establishment and strengthening of a system of law on land management. "Methods of Land Usage for National Construction" was issued in the fifties. Since there have been changes in the more than 30 years since founding, some articles should be supplemented, some should be revised, some should be preserved, and all should be studied in light of the new situation. Since the situation has changed, some articles are not necessarily appropriate. According to the changed situation we should determine our principles. This is a most important method. In recent years, the party and government have formulated repeatedly "Working Regulations Concerning Land Usage in Establishing Sino-Foreign Joint Ventures," "Urgent Notice Concerning Prohibiting Homebuilding on Arable Land in Rural Areas," etc,

controlled, and cases of unlawful use of land should be expeditiously discovered and dealt with. According to reports, from 1977 to 1981 national construction units in Liaoning have applied to use 265,000 mu of land, of which 245,000 mu have been approved at a savings of 20,000 mu (of which over 7,900 mu is arable). This kind of strict inspection system should be steadfastly maintained, and can serve as a valuable lesson to the entire nation.

Six, attention should be paid to reconstruction and conservation in land usage in older villages. Construction in rural areas uses a comparatively large amount of land. In some villages where conditions are favorable, the restoration of houses should be arranged in coordination, and in principle should not use increased amounts of land. Newly constructed villages should be orderly, unified, attractive, conserve land and embody the special characteristics of new socialist agricultural villages.

Land Should be Snatched from the Deserts

Seventh, a lesson should be learned from foreign experience about conserving land resources. Certain concerned periodicals have reported that owing to the constant expansion of deserts, every year six hundred [as published] hectares of farmland are destroyed around the world, causing losses of over \$1 billion. According to other reports, 50 percent of the people of Egypt are urban dwellers, and the population of Cairo has already reached 10 million people--approximately one-fourth of the entire population. Owing to the spreading construction of the city and the expansion of the desert, per capita arable land has plummeted from 2.1 in 1950 to 0.9 at present. As a result, the Egyptian Government has already decided to construct eight new towns in the desert to accommodate the rapidly increasing population and to allow for their living and working comfort.

The three new towns currently under construction are to have a population of 2 million. Foreign experience is not necessarily applicable, but it can enlighten our thinking and help us see the light to bring together China's national and geographical situations and carry out a beneficial exploration of how to utilize and conserve land.

The writer feels that after the above-mentioned work, China's land management will certainly be able to be strengthened, and in the course of future development will exhibit a brand new look.

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